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2019

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BLIZZARD'S RETURN TO DARKNESS

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THE MMO SHOOTER LAUNCHES AN UNPRECEDENTED YEAR OF **ALL-OUT WAR**

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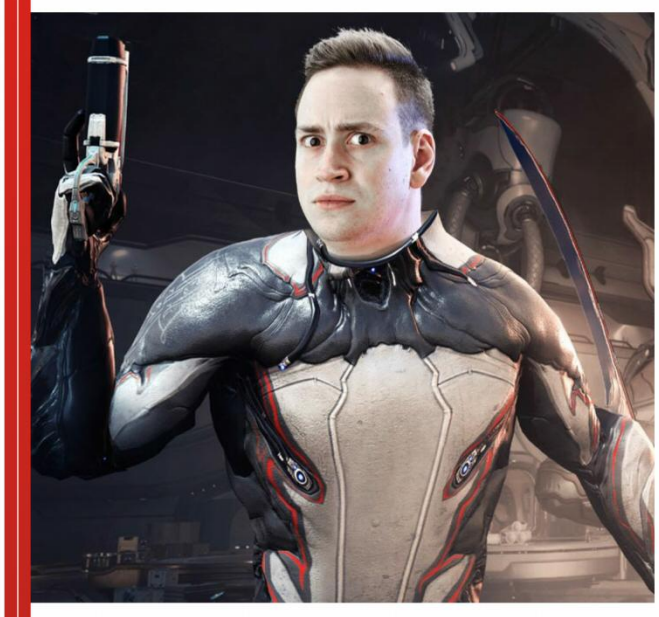
"HOURS OF ARGUMENTS, NEGOTIATION, AND FILIBUSTERING"



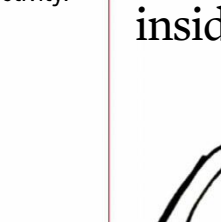
It's that time again when we find ourselves looking back on a year of games, and plucking out the champions among them for adulation and praise. Hours of arguments, negotiation, and filibustering went into the feature within, but the worthy result is an indisputable list of 2019's sweetest digital fruits.

But, of course, we must continue to look forward as well – such as to Digital Extremes' wildly ambitious new plans for its multiplayer behemoth *Warframe*. Whether you're a fan, lapsed, or you've never tried it, the game has a fascinating history behind it and an incredible story still to tell – inside, both are laid bare.

ROBIN VALENTINE
Specialist in
Awards category innovation.

Twitter
@robinlvalentine

This month
Played every game of 2019, for true objectivity.



ROBIN VALENTINE
MANAGING EDITOR
robin.valentine@futurenet.com

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SEE p44

The PC Gamer team

STEVEN MESSNER
Specialist in
Sci-fi MMO shooters that aren't *Destiny*.

Twitter
@stevenmessner

This month
Wrote a cover feature while en route to New Zeland. Dedication.

TYLER WILDE
Specialist in
Asking nervous Blizzard devs about China.

Twitter
@tyler_wilde

This month
Headed to BlizzCon 2019 to carry out a professional vibe check.

WES FENLON
Specialist in
Honey I Shrunk The Kids type scenarios.

Twitter
@wesleyfenlon

This month
Visited Obsidian to check out their huge (or, er, tiny?) new project.

JEREMY PEEL
Specialist in
Holistic games journalism.

Twitter
@jeremy_peel

This month
Looked for connections everywhere – starting with Double Fine.

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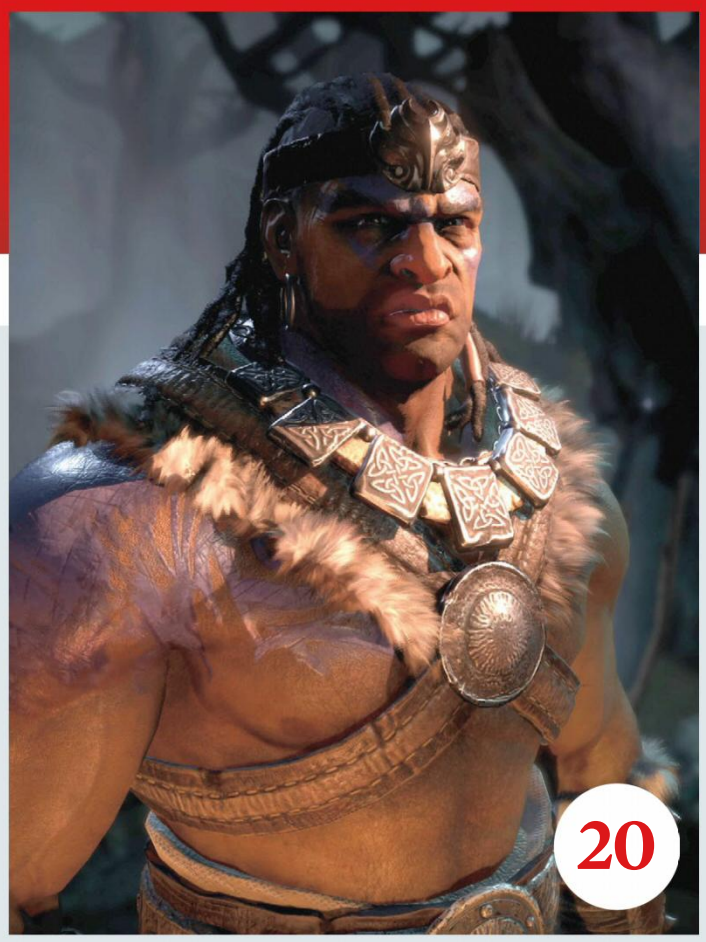

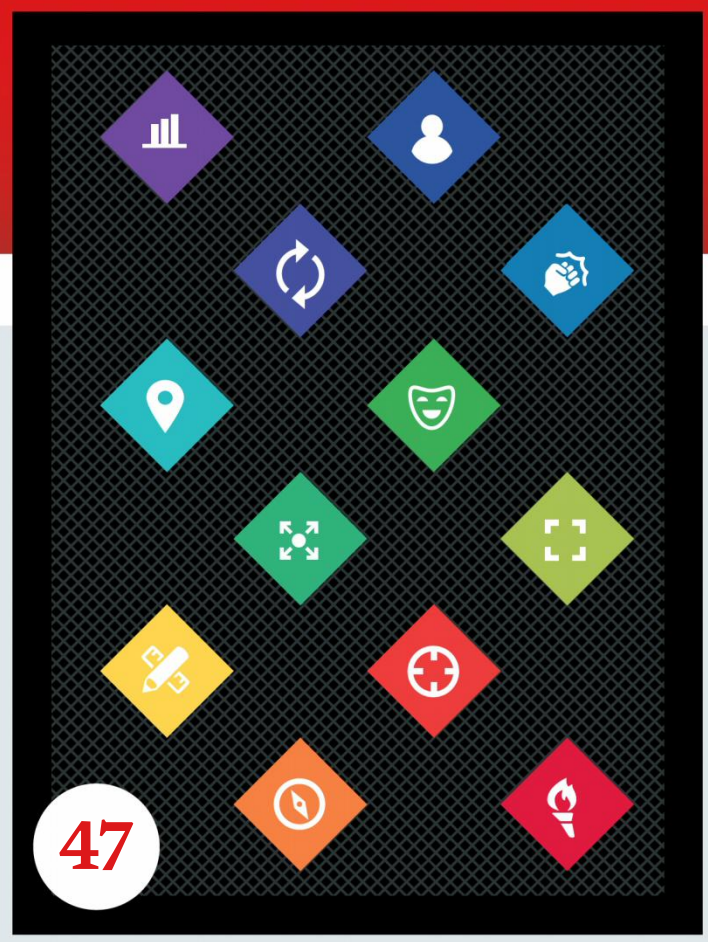

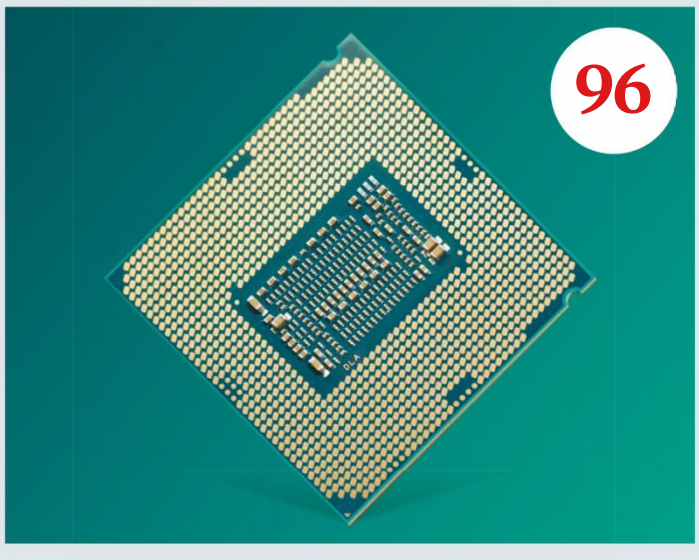

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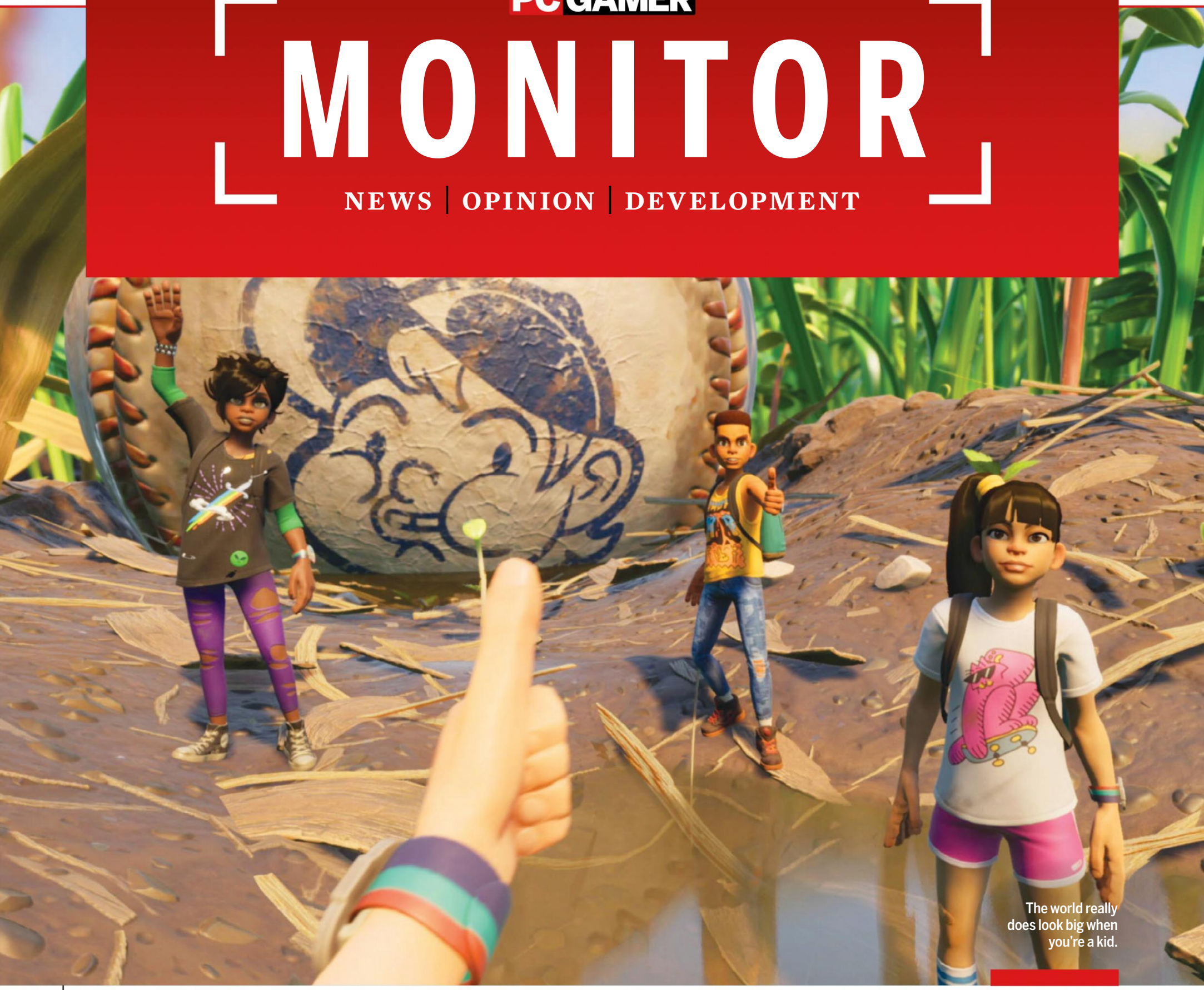


The world really does look big when you're a kid.

OUTSIDE THE BOX

All the PC news from MICROSOFT's fan event

Thanks to X019, Microsoft's fan event, and BlizzCon, which you can read about in our special report, it's been a month full of announcements and reveals. At the top of the list is *Age of Empires IV*. Announced in 2017, Relic's been pretty quiet about the sequel since, but now we've had our first look at the game in action.

It's a departure from Relic's grimdark 40k games and appropriately gloomy *Company of Heroes*. The battle shown off in the gameplay reveal is a sun-drenched scuffle between the Mongols and English. Brightly-coloured soldiers charge down hills and pour out of a cute model town, and it's unmistakably *Age of Empires*, especially when the units start diving into the scrum and the trebuchets start swinging. *Age of Empires IV* doesn't have a release date yet, but in the meantime you can blow off steam in *Halo Reach*. For the first time in years, not including the RTS, *Halo* will be back on PC, starting with *Reach* on December 3. As well as being ported to PC, *Reach* is getting some PC enhancements, and it will eventually be followed by the rest of the collection.

FOR THE FIRST TIME IN YEARS, HALO WILL BE BACK ON PC

The release dates kept coming. Ninja Theory's *Bleeding Edge* is set for March, *Minecraft Dungeons* is coming in April, *Wasteland 3* will follow in May and Dontnod unveiled *Tell Me Why*, an episodic Alaskan thriller that will kick off next summer. *The Flame in the Flood* developer Molasses Flood also

SWAN SONG

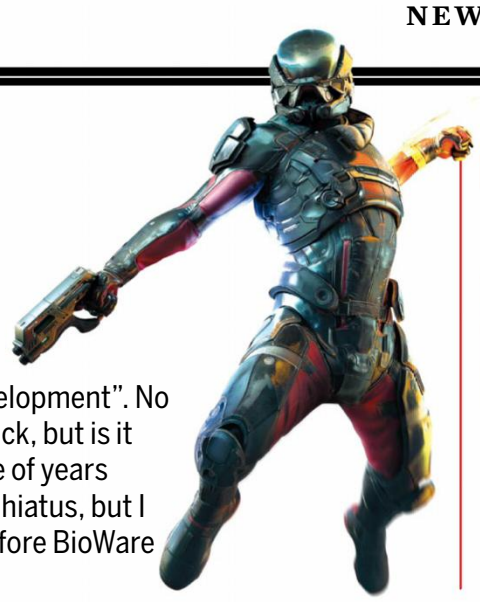
ANTHEM

Kotaku reports that Bioware is looking to overhaul *Anthem*, *Final Fantasy XIV*-style. But why bother? It's dead in the water – wouldn't that time be better spent moving on to something new, or ensuring Dragon Age 4 defies what's increasingly looking like a downard spiral? ■ ***RV***

STRIKES BACK

MASS EFFECT

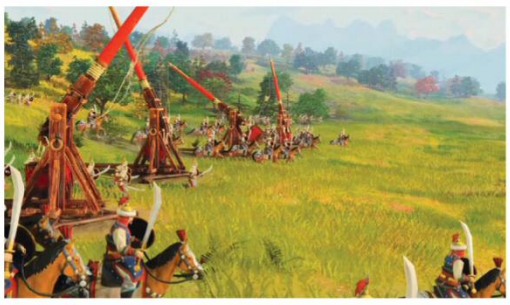
A new *Mass Effect* is reportedly in "very early development". No surprise that it's coming back, but is it too soon? It's been a couple of years since the series was put on hiatus, but I expected a longer break before BioWare dived back in. ■ ***AC***



OFF-ROAD RADIATION

SPINTIRES: CHERNOBYL

As someone who thoroughly enjoyed HBO's Chernobyl miniseries, the news that off-road truck simulator *Spintires* is getting a DLC expansion set in and around the stricken reactor has me hugely excited. Radiation simulation should add an extra layer of struggle to an already challenging game. ■ ***AK***



ABOVE, TOP: *Microsoft Flight Sim* is one of loads of games coming to Game Pass in 2020.

ABOVE, BOTTOM: Trebuchets, solving problems since *Age of Empires II*.

showed off a trailer for its new game, *Drake Hollow*, a co-op romp where you build villages for adorable vegetable people. It's still largely a mystery, though, much like Rare's *Everwild*, also revealed during the event.

HONEY I SHRUNK THE DEV TEAM

Obsidian, a Microsoft studio these days, is taking an unexpected detour in the form of a co-op survival game that's essentially Honey I Shrunk the Kids. The scale and setting put some spins on survival mainstays, like needing to drink water from dew on blades of grass. The designers, of which there are only five, have also designed an ecosystem full of insects, competing with each other and the tiny humans – read more on p30.

Some of these new games will also be coming to the increasingly tempting Xbox Game Pass for PC. *Wasteland 3*, *Flight Simulator* and *Halo Reach* will all be available, starting with *Halo* in December. *Age of Empires II*, *Hearts of Iron IV* and others are coming too, with *Darksiders III*, *My Friend Pedro,* and more appearing before the end of the year. Subscribers will also get to use Project xCloud, Microsoft's streaming service, on PC next year.

It's getting harder to pass up, especially if *Age of Empires IV* ends up there eventually.

Fraser Brown

Highs & Lows

HIGHS

Netflix's The Witcher
The show will air on Netflix on December 20 and a second season's already been greenlit.

Path of Exile 2
The sequel to Grinding Gear's action-RPG was announced at this year's ExileCon.

EA is returning to Steam
The publisher's once again putting games on the store, starting with *Star Wars Jedi: Fallen Order.*

Fallout 76
Bethesda's launch of a Fallout 1st premium subscription has inspired outrage and an in-game class war.

Red Dead Redemption 2
Rockstar's cowboy game is finally on PC, but it's been plagued by performance issues and crashes.

Fortnite
YouTuber Faze Jarvis was handed a permanent ban after openly using an aimbot in Epic's battle royale.

LOWS

The Spy

BUT WHO WATCHES THE SPY?

THE SPY
The Spy can make you famous (if you lower your definition of fame).

Why read the news when you can create the news? "But, The Spy," you're probably thinking, "how can I – a person who is sat reading this magazine – create videogame news?" Well, Daniel, the answer is simple: you just lie. Here is The Spy's step-by-step guide to fabricating rumours that SEO-focused gaming verticals will find too irresistible to resist.

Step 1: make a throwaway Reddit account. For added points, make sure the name is an obscure reference to an anime show. This will give you an air of mystique and credibility that many sites will find hard to ignore.

Step 2: Choose the right game. Nobody is going to believe your too-good-to-be-true *GTA VI* rumours, but something a little less ambitious is going to garner attention. Just look at the recent rumours around the next *Assassin's Creed*. It's believable: Ubisoft info leaks all the time, to the point that *Watch Dogs 2* once leaked a trailer inside a sidequest about leaking a trailer. It's also easier to piggyback off a game that's already been the subject of rumours. Why not take a stab at detailing the new features of the next *Splinter Cell*, or revealing the story of the upcoming *Fable*? This will confuse websites into assuming what you're writing is true, because if you were just making stuff up, surely you'd do it for something with more SEO clout, like *GTA VI*.

NOBODY IS GOING TO BELIEVE YOUR TOO-GOOD-TO-BE-TRUE GTA VI RUMOURS

Step 3: Mix the old with the new. Like the multiple Redditors who leaked – or 'leaked' – *Assassin's Creed* info, you've got to use previously revealed information to augment your tantalising titbits. So if Kotaku has already teased that the next *Assassin's Creed* is about Vikings, you can start to fill in the blanks. It'll be set around 800 AD, the rumours claim. It'll take place in Scandinavia and parts of England, the rumours suggest. There'll be boats, the rumours tease. You'll visit realms like Asgard and Jotunheim, the rumours whisper. The central story is about revenge, the rumours propose, reassuringly, lovingly.

And... yes? It all *sounds* right. The Vikings did operate in the 800s. They are known to have been in both Scandinavia and England. They had boats, famously so. The *Assassin's Creed* series makes a point of mixing a culture's mythology into its interminable lore. The central story is *always* about revenge. It all makes sense, so much so that, even though there's no source or proof or credibility, it just *feels* true. Its truth vibrates in your bones. Facts are hard. It's easier to live by the philosophy of yeah-I-reckon-that-sounds-about-right.

Step 4: Write like you're drunk. You're almost at the home stretch. All that's left is a final aesthetic flourish to seal the deal. If you want to seem credible you've got to deliberately misspell words. You've got to abandon the concepts of paragraphs and commas and capital letters in the correct places. It's imperative that you write like this to stop your employer – who, remember, we are pretending is a game studio – from tracking who you are by analysing your linguistic footprint. This is definitely something that people actually do in the real world, and is why The Spy has painstakingly copied the writing style of various PC Gamer editors and staff writers over the last two decades.

Step 5: Post to the relevant subreddit. You'll be the talk of gaming blogs in no time, and The Spy will have plenty to write about in future issues. Spy out. ■

The Spy

This month in... 2009

1 They say that those who do not learn history are doomed to repeat it, which is why we should take a stark, honest look at this issue's *Star Trek Online* coverline. "Set nerdgasm to stun!" we wrote. On the cover of a magazine. It's... not even a pun. It's gibberish. Thank you for your continued patronage in spite of this fact.

ISSUE
209, January 2010

ON THE COVER
Star Trek Online

IN THE CINEMAS
Avatar

2 You can't buy the highest scoring game of this issue – *Colin Mcrae: Dirt 2*, 88% – digitally any more, because of the licensing issues. How easily our past vanishes...

3 The Top 100 is always a fun way to make some controversial statements about the state of PC gaming. In 2009's list, PC Gamer claimed that *Solitaire* was the 82nd best game on the platform. No doubt a top three comprised of *Team Fortress 2*, *Half-Life 2* and *Deus Ex* helped cushion that hot take.

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Some of the best cosplayers in the world came in full regalia.

Photo credit: Blizzard Entertainment

ICE AND IRE

A mixed mood at BLIZZCON 2019

Early on a Friday morning, a small group of protesters gathered around a fountain in front of BlizzCon 2019's main security checkpoint. A few convention employees stood facing the black-clad group, passively watching the protestors unpack boxes of t-shirts while holding signs that said "Questions?" on long poles, as if they were Swiss Guards.

Not many had questions. The attendees already knew the score. Security is directly ahead. Protesters in Hong Kong demand increased autonomy from mainland China. Backpacks should be open for inspection. Blizzard angered fans by punishing *Hearthstone* champ Ng Wai Chung, aka Blitzchung, after he called for the 'liberation' of Hong Kong on an official stream. Professional video and audio equipment is prohibited. Blizzard is also in hot water for punishing the two casters who were present. Have your backpacks open before approaching security!

Throughout the two-day convention the crowd of anti-China protesters waxed and waned, reaching its largest numbers (around 40 to 50, by my count) in the early afternoons. They handed out black shirts that read "Mei With Hong Kong", fliers, and stickers. Some attendees stopped and chatted with them, many walked by without turning their heads.

SIGNS OF THE TIMES

As the first day went on, signs reading "Down with CCP" and "Blizzard = China's bitch" came out as early risers such as Charles Lam of the Los Angeles Hong Kong Forum were joined by louder gamers who chanted slogans ("Gamers unite, human rights!") and promoted the free t-shirts with a megaphone. Hong Kong flags were waved. Winnie the Pooh costumes were worn. A circling truck with an LED display cheesily depicted the Chinese flag shattering the words "freedom" and "democracy".

The protesters, who organised in Discord servers and with multiple organisations, weren't there to demand that Blizzard remove its blanket ban on off-topic speech during official streams. They were specifically concerned with speech in support of the Hong Kong protesters, as well as the issue of Hong King itself. It was an anti-China protest, as evidenced by the calls to "free Hong Kong" and crossed-out hammer and sickle symbols. Most I spoke to were light on specifics, such as support for the protest's demand for universal suffrage, but full of energy. They succeeded at making a lot of noise. Entering through that main causeway, it was impossible to ignore them.

By the end of the convention, when the unknowns were all known, the initial sense of drama that filled that fountain on Friday morning had subsided. The protest got reasonably big, but didn't overtake the show. Though

A new champ

One BlizzCon event received nothing but cheers, as well as a few tears: the crowning of China's Xiaomeng 'VKLiooon' Li as *Hearthstone* Global Champion. Li is the first woman to hold the title. "If you want to do it and you believe in yourself, you should just forget your gender and go for it," she said.

Photo credit: Blizzard Entertainment

FAR LEFT: Once the festivities began, it was hard to tell anything was amiss.

LEFT: At the protest's peak, the chants could be heard from the surrounding hotels.

TAKE THIS *Here's what attendees picked up at the protest*

T-SHIRTS
I wondered if these were meant to say "Mei Stands With Hong Kong", but it felt rude to ask.

REVOLUTION
"Liberate Hong Kong; revolution of our times" is a popular slogan among Hong Kong protesters.

TAT
Someone left this sign by a trash can. I can see why. C- Sharpie calligraphy work.

HONEY
Pooh was not actually handing out money, I'm afraid. He's still banned in China though.

many protesters mimicked the Hong Kong aesthetic with face masks, gas masks and helmets, I saw no conflict. The police were mostly concerned with directing traffic, and numbered no more than usual for a convention.

Inside, a kid shouted "free Hong Kong" during a *World of Warcraft* Q&A, and then was allowed to take the mic to repeat it. The panel awkwardly resumed.

Two *Hearthstone* developers I interviewed were visibly uncomfortable when I asked why Blitzchung was still banned from competition for six months even after Blizzard president J Allen Brack apologised for the handling of the situation during the opening ceremony. A PR guy interjected, eventually. Designers and artists can't say much about corporate policy. I knew that, but I had to ask. I suspect they went through that a few times.

TWO HEARTHSTONE DEVELOPERS I INTERVIEWED WERE VISIBLY UNCOMFORTABLE

PROTEST PARTIES

Otherwise, though, the devs I spoke to were cheerful, and the attendees were having a good time. Fans met up with guildmates, posed in elaborate costumes, and wandered the halls in varying states of excitement, exhaustion, and sobriety. A few wore the t-shirts they'd picked up from the protesters. More carried giant bags full of merch shop collectibles. Every fan in the convention centre paid at least $229 (£180) to be there. For that price, it's possible to support the protesters and have fun at the same time.

By the middle of day one the protest felt like part of the party – an attraction on the way in, with free t-shirts and all. One cosplayer who hadn't seen the protesters exclaimed "Are they here?" when I brought them up, and made plans to go check out the scene. She said she felt no disconnect between attending BlizzCon and supporting the protest. It's stuffy executives who make policy decisions, after all, not the game developers.

To most fans I spoke to this year's show was an improvement over last year's. The 2018 uproar over a *Diablo* mobile game seems quaint in comparison to the Blitzchung controversy, but BlizzCon is judged by the announcements, not the chants outside.

Some felt appeased by Brack's apology, with one attendee telling me he thought it sounded heartfelt. Most agreed, though, that it didn't make sense to apologise without also taking back the six-month bans for Blitzchung and the others.

"We want the official broadcasts, which are a small percentage of the overall content that gets created, to be about the games," Brack told PC Gamer. He maintains that it's not what Blitzchung said – he's free to support the Hong Kong protests on his personal channels – but where he said it. The bans will stand.

By this time next year, Blitzchung will be allowed to compete in *Hearthstone* tournaments again, and the banned casters will be back on the mic should they choose to return. Will the protest happen again? It's possible. BlizzCon 2020 will also be another opportunity to play *Diablo 4*, though. And I suspect the latter will draw the bigger crowd then. ■

Tyler Wilde

Character Sheet

GAMING'S HEROES & VILLAINS EXPLORED

Now that's a steely-eyed gaze.

GOOD COP

LT KIM KITSURAGI, *Disco Elysium's* finest

Lieutenant Kim initially comes off cold and judgemental. It's hard to blame him. The detective RPG *Disco Elysium* begins with what probably feels to him like some cosmic joke. He arrives in Martinaise to solve a murder case and is met with a decomposing victim, no suspects, and a hungover, amnesiac detective as his temporary partner. Kim remains aloof throughout the investigation, but an empathetic enough detective can manage to uncover brief moments of vulnerability from Lt Kitsuragi. Those hard-earned interactions have been enough to make him the game's breakout star. Which was not at all what the team at developer ZA/UM expected.

"Honestly, we're surprised people like him so much," says lead writer Robert Kurvitz. "Of course, we always adored him. All these years playing the game, testing it, writing it. We got to spend a lot of time with Kim. And we always felt he's a real person and our friend."

All of *Disco Elysium*'s characters feel like real people. Each one has a history and memories that, unlike NPCs of other RPGs, aren't keen to spill their guts at the protagonist's feet upon first meeting. As the detective's partner, Kim has multiple threads to his backstory waiting to be unraveled. "We wanted Kim to open up through the scenes and situations you get into," Kurvitz explains. "Not by clicking on him and cleaning out his tree."

Because of that philosophy, the player is unlikely to uncover everything there is to know about Kim in just one playthrough. With certain combinations of skills or experiences, the detective can have interactions with Kim that couldn't be achieved by playing with a different build.

The detective's Thought Cabinet, the limited inventory reserved just for exploring various ideas, can lead to avenues for conversation with Kim and others that cannot be unlocked otherwise. The Aces High thought, when internalised, allows the detective to find out that Kim is an Aerostatics enthusiast. Other Thought Cabinet options can lead to more revelations about Kim. In theory, Kurvitz says that Kim has Thought Cabinet ideas of his own. Like the detective's, they each take time to internalise and provide boosts to other attributes when completed.

"I like to think Kim has a Thought Cabinet project called Revolutionary Aerostatic Brigades that he's worked on since he was a teenager," Kurvitz says. "This raises the learning caps for his Reaction Speed and Interfacing."

KIM'S HIGH VOLITION SKILL MAKES HIM IMPERVIOUS TO PRYING

Kurvitz stresses that Kim doesn't actually have a character sheet hidden in *Disco Elysium*'s code. Imagining that Lieutenant Kitsuragi has only one natural attribute point in Motorics helps the ZA/UM team to understand the depth of his character beyond what's referenced in the game's dialogue. "We just came up with this stuff for coherency," says Kurvitz. "And because we're nerds."

Unlike the detective, Kim doesn't have a 'copotype', *Disco Elysium*'s witty and often sarcastic way of allowing the detective to define his modus operandi with monikers like 'hobo cop' and 'art cop'. If you were able to ask Kim what his copotype is, Kurvitz says he would reply quite matter-of-factly that "copotypes are stupid".

Kim's high Volition skill makes him impervious to prying, Kurvitz says, as the detective can find out on occasions being met with Kim's brick-wall resolve. Kim often chastises these whims of the detective's, but will occasionally play along. The Lieutenant finds his new partner funny, says Kurvitz. In one instance he'll engage in (and win) an unspoken nod-off. Elsewhere, he indulges the detective's fascination with cryptid hunting. It's the conscious effort Kim makes to break his own persona that gives him a warmth that's so endearing.

VOICE OF REASON

Disco Elysium isn't entirely voice-acted, but the specific moments when characters speak lend an extra layer to their personalities. Of all the voices in game, Kim's is one of the best. He's written as soft-spoken but stern, qualities that Kurvitz says were enhanced by the perfect actor.

ZA/UM knew that, as a Revacholian, Kim had to sound vaguely French but it took an entire four years to find the right voice. Jullian Champenois was the only one who could bring "the cool, the deadpan, and the warmth" of Kim's personality together.

Disco Elysium is equal parts grim and hopeful, as is Lieutenant Kitsuragi, the buttoned up cop who's occasionally willing to rip a few pages out of his by-the-book attitude. "You're in this awful mess and literally nothing and no one is on your side – except Kim Kitsuragi," says Kurvitz. "It just so happens that he's great. A great detective and a great human being."

Lauren Morton

KIMPRESSIVE

Our estimation of Kim's stats

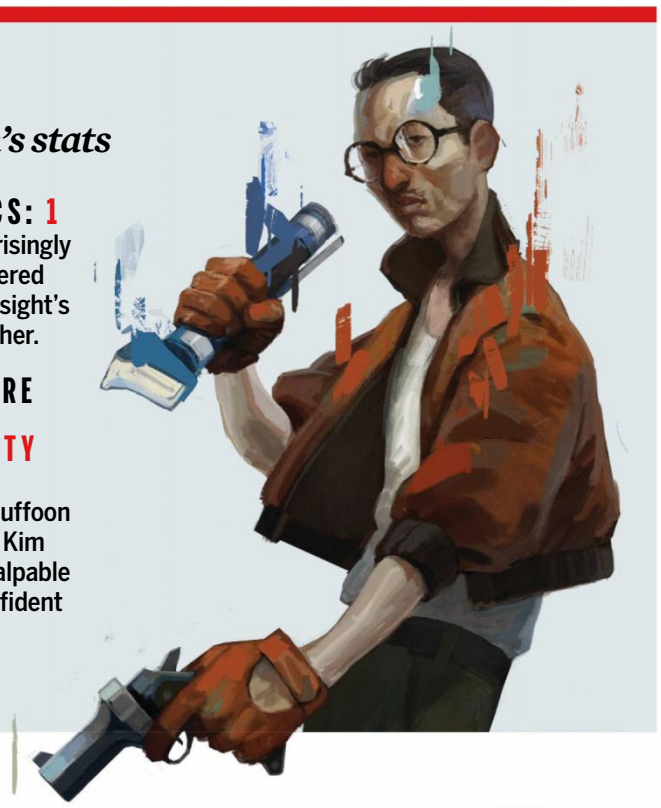
INTELLECT: 5
He's smart – but maybe not smart enough to realise your character's bad news.

PSYCHE: 4
A high Volition skill allows him to keep that poker face.

PHYSIQUE: 2
With his scrawny build, he doesn't exactly have the 'hero cop' look.

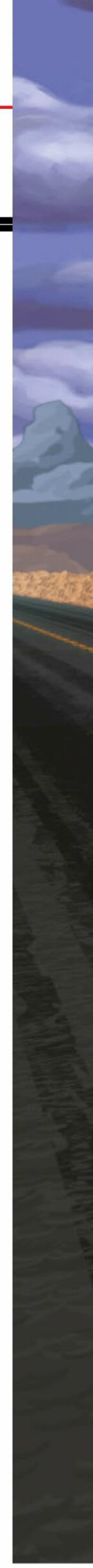
MOTORICS: 1
Kim's surprisingly butter-fingered and his eyesight's no good either.

SIGNATURE SKILL: AUTHORITY
Even with a complete buffoon by his side, Kim exudes a palpable aura of confident cop-ness.



Positive Influence

INSPIRATIONS AND CONNECTIONS IN GAMES



SPEED DEMONS

The Big Daddy behind **TIM SCHAFER**'s love of fast cars and 'freeks'

To the trained eye – or rather the trained ear – there is a heavy metal logic to the world of *Brütal Legend*. From Black Sabbath come the Ironheades, blue collar headbangers with bulging neck muscles. Their class war is with the Hair Metal Militia, the glam sellouts who got into bed with The Man. And the threat to everyone are the goths, who threaten to pull us all down into their gloomy mire.

Then there's Fletus. A pond-green greaser who races you in side missions, he doesn't have anything to do with the other demons of this fantasy metal world. "I'm too ugly," he explains. Squint a bit and you can make out the gruff Geordie demeanour and signature flat cap of AC/DC frontman Brian Johnson. In a land where everybody else has picked a side, Fletus simply leans against his hot rod and scowls through the underbite of exhaust pipe teeth.

What is he, then? The short answer is that he's a figment of Tim Schafer's imagination. But that figment comes from a very specific place in the Double Fine designer's head.

At the time of *Brütal Legend*'s release, the public struggled to grasp its dual identities as an open-world brawler and RTS. That's no surprise, given that it began as two separate ideas. Schafer had a story about a roadie pulled back in time to a world of Ozzy and axes. And he also had a plan for a strategy game starring demons who drove hot rods. "I realised those could be the same exact story," Schafer told Rock Paper Shotgun in 2013. "That'd be a cool way to do it. Big, bug-eyed demons."

Schafer grew up in California where, in the 1960s, Ed 'Big Daddy' Roth was a key figure in Kustom Kulture. This was a scene that developed around hot rods – classic American cars modded to go really fast in a straight line. Roth built ludicrous and beautiful machines with exposed engines, their elegant and exaggerated forms inspiring the Hot Wheels range of toys. But it was the way he channelled the culture into his drawings that made him famous.

Roth's most successful creation was Rat Fink – a grotesque, grinning rodent with a huge maw full of sharp teeth. A fixture of t-shirts in Kustom Kulture and beyond, Fink loomed out over the cars and bikes he rode, as if he was the spirit that possessed them. But the rat was only the most recognisable of Big Daddy's characters. Roth drew many other oversized monsters with bulging, bloodshot eyes. Demons, driving hot rods. Fletuses.

Looking back, it's clear that *Grim Fandango*'s Glottis is part of the same family. An eight foot elemental and frustrated mechanic, he is summoned up from the Land of the Dead and given, as he puts it "one purpose, one skill, one desire: to drive". It's Glottis who, with very little persuasion, converts a company car into the Bone Wagon, surely the first ever hot rod hearse.

In fact, throughout his career, Schafer has stuffed his games with cars and bikes. Ben's modified chopper is practically a co-star in *Full Throttle* – and like the rides of Fletus and Glottis, wears its machinery on the outside. Drift around the coasts of *Brütal Legend*'s map, meanwhile, and you might find a giant V8 engine, taller than the trees – buried long ago by the metal titans.

BIG RIGGS

"I do love the hot rods," Schafer told me last year. "The more pipes the better. The biggest heartbreak of *Brütal Legend* for me was cutting the Motor Freeks, a whole army of Roth-inspired hot rod demons. Fletus was to that faction what Eddie [Riggs], Ophelia, and Doviculus were to theirs."

Maybe we'll meet more Freeks yet. As Roth advised in his later years, if you can't do it yourself, get help. And with Double Fine's sale to Microsoft in June, the prospect of a big budget sequel to *Brütal Legend* no longer seems as fanciful as it once did.

"They all as slow as you?" Eddie once asked Fletus of his missing army. "You'll find out someday," snarled the speed demon, punching a huge green fist into his palm. "For now, I'll just have to beat you myself." ■

Jeremy Peel

TIM IMMEMORIAL *A history of strange Schafer inspirations*

GRIM FANDANGO
Aztec and Mexican folklore merged with art deco and film noir in this dizzyingly creative adventure game.

FULL THROTTLE
A traveller's stories about an Alaskan biker bar birthed Ben and his hard-living road warriors.

PSYCHONAUTS
All that brain-delving was kickstarted by the idiom, "What colour is the sky in your world?"

Elements of Kustom Kulture appear in most of Tim's games.

"THE BIGGEST HEARTBREAK OF BRÜTAL LEGEND FOR ME WAS CUTTING THE MOTOR FREEKS"

LEFT: Mechanics are regularly found among the supporting cast of Schafer games.

BELOW: Ben's modified chopper from *Full Throttle*.

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NEED TO KNOW

RELEASE	DEVELOPER	PUBLISHER	LINK
TBC	Blizzard	In-house	diablo.blizzard.com

DIABLO IV

The clickfest returns, grimier and more online than ever

Diablo IV's crypts are more hateful than *Diablo III*'s. They're darker and dustier with Bloody Piles that explode like popped blisters in slow-mo. It's also shinier, but in a dour way. Lightning shimmers across wet stone and fleshy creatures, and it sometimes rains, dynamically generating muddy puddles. *Path of Exile* feels cheerful by comparison.

PLAYED IT

I'm hesitant to draw any big conclusions about *Diablo IV* because I imagine it'll be quite different whenever it releases, and Blizzard says that probably won't be soon.

The demo was quite easy, for one thing. I'd guess Blizzard didn't want players getting frustrated, especially those who had to stand in a long line at BlizzCon, so they outfitted us with strong characters. I played the 20-minute demo twice, once as the Druid and once as the Sorceress. In the latter run I was chewing through heavy enemies like the Drowned Juggernauts – big boys who slam down splash damage attacks – without much worry. My mouse-bound abilities, a little ice projectile and a bigger fire projectile, were more than enough to freeze or fry any slippery demons I encountered, so I only played with her hotkey abilities to spice things up. I used a health potion just once and I didn't really need to.

Because *Diablo IV* is a ways off I'd expect things like ability cooldown times and damage numbers to be tweaked as development continues. I'll focus more on the broader topics, then: the new art and engine, and the *Destiny 2*-like open world.

The art we've seen so far is certainly as gloomy as was pitched during the BlizzCon reveal. The piles of skulls remind me of pencil doodles I'd do in high school, where I'd get the thinnest mechanical lead I could and try to draw hyper-ornate horror frescos. There's a choking haze over everything and the way the irregular stone walls glisten make the world feel unbearably damp. The boss in the demo, Merinth of the Deep, reminds me of a *Remnant: From the Ashes* boss. She's a giant, shiny, jiggly drowned witch whose flesh lunges around after her as she swings a nasty, toothed mace and summons puke pools.

But while *Diablo IV* is far less of a laser show than *Diablo III*, I'm not sure it'll totally satisfy *Diablo II* diehards when it comes to 'darkness'. When I think about *Diablo II* I tend to forget just how ugly and clunky it was. The darkness and the 4:3 aspect ratio meant that you couldn't see more than a few feet in any direction, and movement was mechanical. *Diablo IV* ditches the *Warcraft*-like cleanliness of *Diablo III*'s art, but is still full of friendly quality-of-life features and modern slickness. You can dash-dodge. Animations cleanly blend together. Enemies are outlined in red when you mouse-over them, and have health bars, and damage numbers pop off of them. You've got a convenient quest tracker and minimap which guides you to waypoints you select. In a literal sense *Diablo IV* is not as dark as *Diablo II*. There's more ambient light, more indicators and particle effects popping off all the time. It isn't a total reversion to *Diablo II*'s grimy simplicity.

DEMON DAYS

Another case in point: *Diablo IV* is an open world big enough to warrant rideable horses, and whether or not you choose to party up for co-op, it won't just be your world. It's a seamless multiplayer experience now, and no, there's no offline mode. While walking to a quest marker I ran into two other players at BlizzCon. They fought alongside me for a little bit, silently. During a moment of commotion while I zapped a horde of nasties, they ran ahead and I never saw them again.

One of the concerns discussed during a group interview I attended was the challenge of balancing the sense of

I'M NOT SURE IT'LL SATISFY DIABLO II DIEHARDS WHEN IT COMES TO 'DARKNESS'

Diablo 4

desolation *Diablo*'s landscapes are meant to evoke and the presence of random other players. As part of that thinking they don't want multiplayer world bosses to require too many players.

I'm left wondering if these two ideas can really coexist. The world felt pretty desolate until I saw other players bolting around the first town I encountered and then running toward the same boss I was. When I encountered that boss – the jelly-filled Merinth – I thought about how they'd already slain her in their timeline. I thought of *World of Warcraft* and of Disneyland. There's no queuing or anything, but seeing players who are clearly on the same quest, but aren't a permanent part of my world, reminds me that this isn't just my adventure in a way *Diablo II*'s multiplayer didn't.

Because the overworld is shared, there are no game-wide difficulty settings. Enemies will scale for each player, but they won't necessarily scale to your level – some parts of the world will be scarier than others. Dungeons, however, will be private to you and your party and will have their own difficulty options, which I'm told will be exceptionally granular. Places important to the campaign will also be private to you and your party when you first enter them, though other players may show up in them later as the world changes over the course of your journey. At least we won't be running into Goku420VapeGod69nice and squad while chasing a dramatic narrative event.

Aside from running into other players, the explosions of loot are another reminder that I'm chasing numbers in a compulsive loop, but maybe I'm immunised to their mood-breaking effect after playing so much *Diablo II* and *III*. Legendary items were plentiful in the demo and had the silly names I expected. The Sheltering Highland Trousers of Grounding gave me +6 damage reduction and the Stone of Jordan is a ring that gave me +1 Rank to all equipped skills.

Visual character customisation is new to the series, but we got preset characters for the demo with two looks and a few abilities chosen for us. For the Sorceress I had the Frostbolt and Fireball abilities I mentioned bound to the mouse buttons, plus Blizzard for AOE damage and slowdown, Lightning Spear which bounces a bolt around, Meteor for a high-damage AOE attack that has to be timed just right, and Conduit, which turned me into a supersonic lightning god who takes no damage and zaps around the map killing things just by existing.

I had fun dodging ranged attacks and targeting big globs of beasts with Meteor and Blizzard, catching them bunching up like a kid's soccer team. Lightning Spear was a fire and forget type of ability that bored me. Turning into 'lightning incarnate' with Conduit was fun for showing off to the two players I encountered on the road.

The Druid, who returns from *Diablo II*, was more fun. His mouse-bound abilities temporarily transform him into a werewolf or werebear as he attacks and the latter slams his paws into the ground to gore big lumps of enemies (it's kind of cute, in a bloody way). I was a little disappointed there's no grotesque transformation sequences – it's basically instant – but I like how huge the bear form feels.

LEGENDARY ITEMS WERE PLENTIFUL AND HAD THE SILLY NAMES I EXPECTED

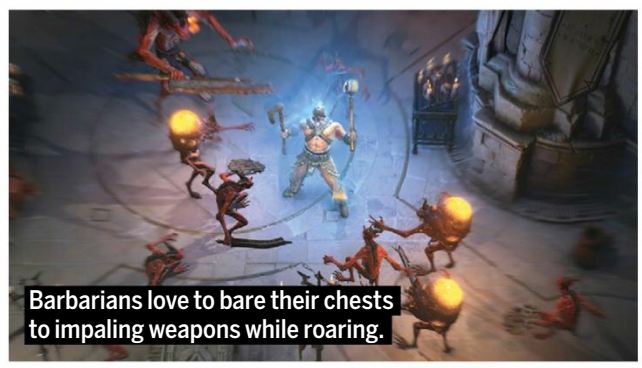
INFERNAL AFFAIRS

Diablo IV is the embodiment of the phrase 'we've heard your feedback', but with some concessions for modernity, in that it's an always-online game again (hopefully without Error 37) and answers about in-game monetisation have been vague. There'll be expansions, and beyond that, they say they "won't sell power".

Otherwise, though, everything that kicked off disgruntled forum threads when *Diablo III* released has been addressed to varying degrees. There are currently no plans for the same kind of auction house *Diablo III* launched with. There'll be guilds and player trading. PvP was planned from the start. The art is nasty and serious. The quality of life improvements *Diablo III* launched without are all there. The spacebar dashing is nice, too – if you're going to include big, telegraphed attacks, it's kind to include a way to escape them.

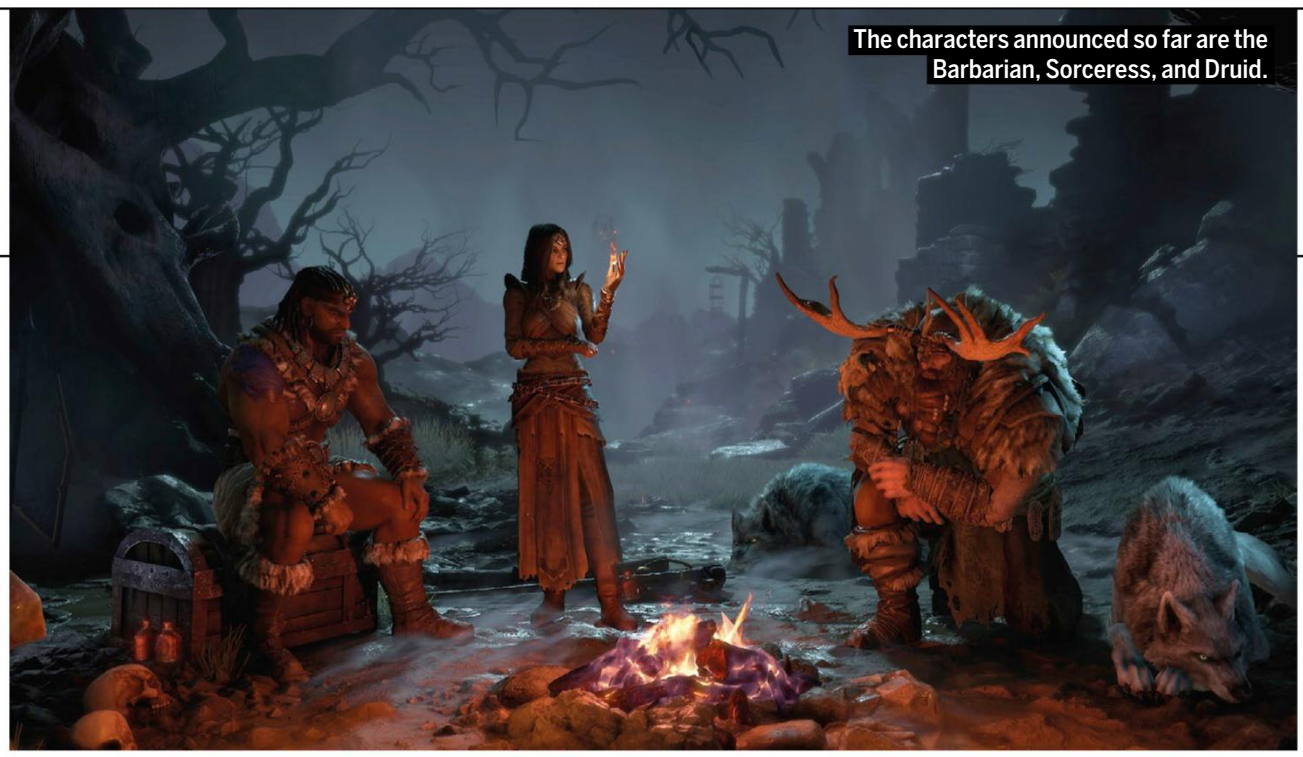
Pulling off a modern, *Destiny 2*-like shared world while also satisfying nostalgia for a much simpler 20-year-old game won't be pulled off easily. Already some fans are rankled by the mandatory online components. But if encounters with other players are meaningful – I can imagine fruitful swap-meets at crossroads – and don't intrude too heavily on Lilith's blood-soaked return to Sanctuary, it may not sour the mood in the end.

Tyler Wilde



Barbarians love to bare their chests to impaling weapons while roaring.

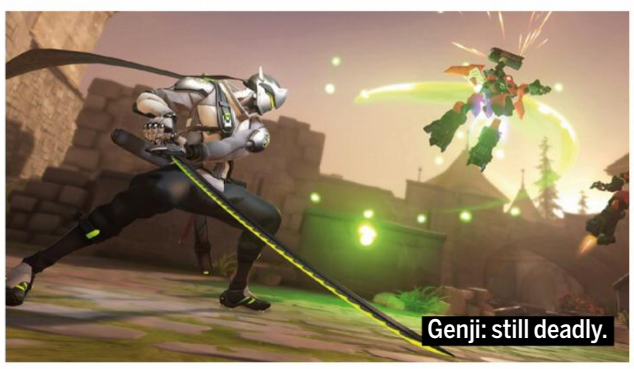
World bosses will require multiple players to defeat.



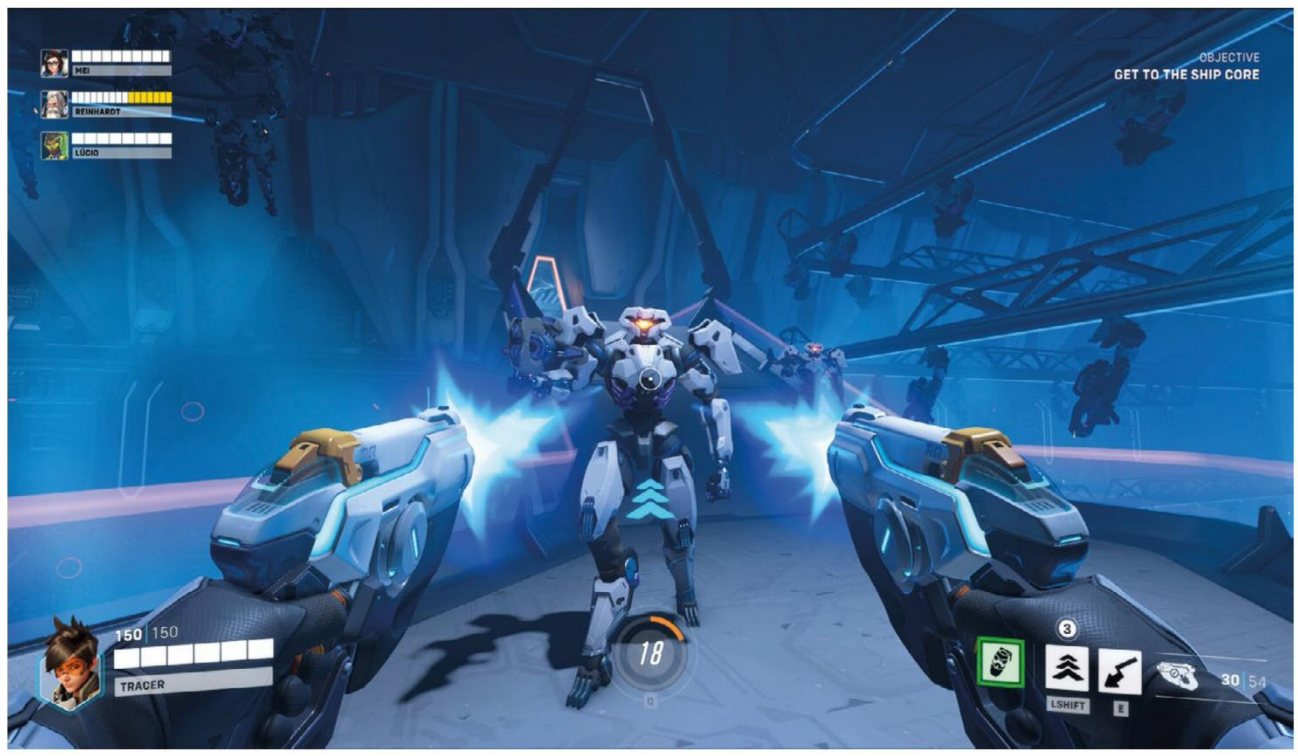
The characters announced so far are the Barbarian, Sorceress, and Druid.

Overwatch 2

Null Sector attacks.



Genji: still deadly.



NEED TO KNOW

RELEASE	DEVELOPER	PUBLISHER	LINK
TBC	Blizzard Entertainment	In-house	blizzcon.playoverwatch.com

OVERWATCH 2

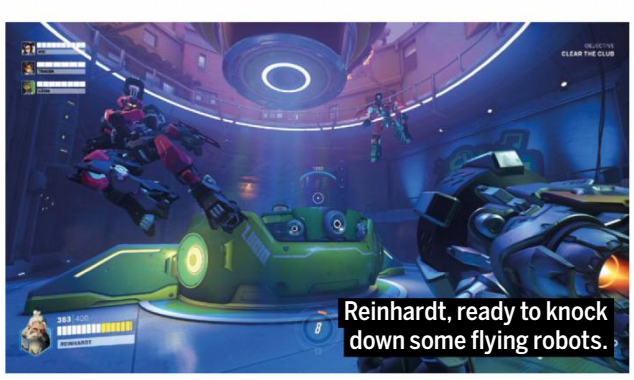
Overwatch is getting the PvE story expansion sequel it needs

Blizzard's beloved shooter has needed a pick-me-up for a while. Sure, there's now 31 heroes, arcade modes, loads of maps, and a healthy esports scene, but if it feels things like seasonal events fell by the wayside it's because the development team had to split their resources between *Overwatch* and *Overwatch 2*.

Rumours of a sequel flew around months before BlizzCon, but the official announcement didn't feel any less exciting – two PvE modes, a new PvP mode, a new hero named Sojurn, and the news that current *Overwatch* players will be able to use all their cosmetics in *Overwatch 2*. Blizzard doesn't want to fragment its current and future player bases and I applaud them for that.

However the *Overwatch 2* demo felt highly conceptual. The developers were hesitant to comment on certain features but said you will have the ability to level up characters individually as you progress in hero mode, which is separate from story mode and like *World of Warcraft*'s world quests and *Diablo*'s adventure mode. That wasn't available to play, but there was a 20-minute or so story mode demo and a chance to try the new PvP 'push' map.

In story mode you and three teammates choose between four designated characters based on what map you're playing. It's like *Left 4 Dead 2* in that the four of you work together to take out enemy onslaughts until you get to the end of the map.



Reinhardt, ready to knock down some flying robots.

YOU WILL HAVE THE ABILITY TO LEVEL UP CHARACTERS AS YOU PROGRESS IN HERO MODE

Along the way there are loot boxes with items like health packs, grenades, and turrets to aid you in your mission. Should one of your teammates become incapacitated you have a certain amount of time to revive them before they're permanently out of the game.

Story mode will have a tiered-progression system that allows you to choose between two additional abilities as you level up, like *Heroes of the Storm*.

The demo was pretty breezy. My teammates and I were able to blow through waves of robots, even taking out the boss bot at the end in no time. The ability I choose for Mei allowed me to take out clustered enemies without much bother. However story mode will have varying levels of difficulty, and apparently the game I played was set to 'easy', not 'expert'. Overall this PvE content feels exactly like the *Overwatch* we already know, but 20 minutes isn't enough time to give players a good taste of the new lore; the whole point of *Overwatch 2* is about expanding the story, and no one is going to get a good grasp of that by playing a short demo. I was left wanting more.

FIRST LOOK

PUSH OFF

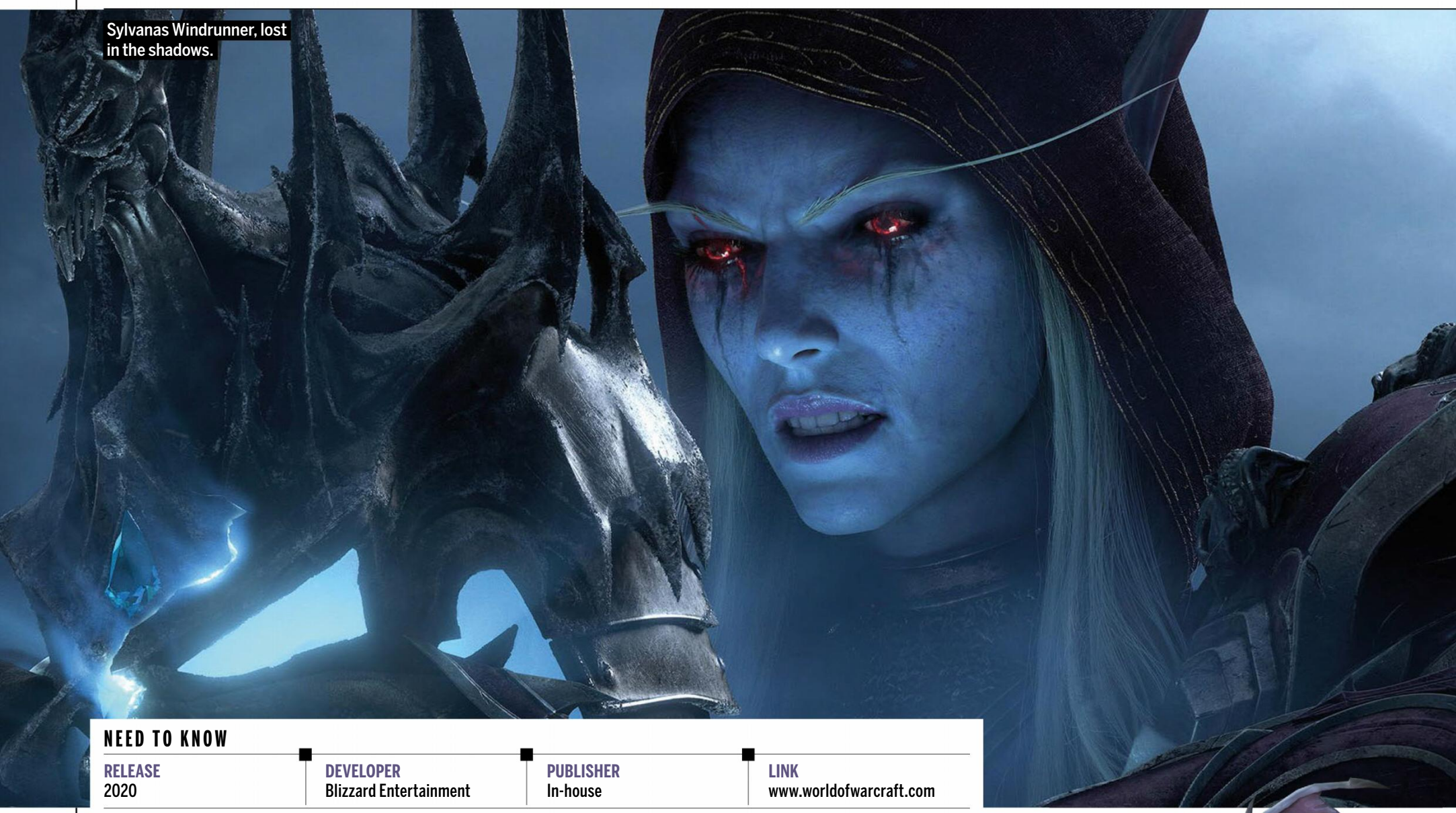
Next I headed into more familiar territory with a go at the PvP push mode. On a symmetrical map each team races to the centre to gain control of a robot and push it to the opposite side. It's a bit like tug of war, and there's a lot of space to hide and flank your enemies along the way.

With two evenly matched teams and some strategising going on on each side, it's an exciting back-and-forth. My concern, though, is that when one side's struggling, it really feels no different than the existing payload maps. It's hard to say which experience will be more common once it's in the hands of regular players, but I do worry it won't be the breath of fresh air the formula would benefit from.

There was a sense throughout that Blizzard just wanted to get something in the fans' hands – there's nothing wrong with that, but it was unpolished. I hope we'll get to see hero mode in another demo soon, because I'm way more curious about delving into that new levelling up system.

Joanna Nelius

World of Warcraft: Shadowlands



Sylvanas Windrunner, lost in the shadows.

NEED TO KNOW

RELEASE	DEVELOPER	PUBLISHER	LINK
2020	Blizzard Entertainment	In-house	www.worldofwarcraft.com

WORLD OF WARCRAFT: SHADOWLANDS

What you can expect from this dark new chapter

This is the eighth major expansion for *World of Warcraft* and it's the most dramatic since *Cataclysm* tore the world apart. Sylvanas Windrunner has pierced the veil between Azeroth and the realm of the dead, granting players access to the titular Shadowlands: an eerie afterlife featuring five brand new zones to explore.

FIRST LOOK

One of the biggest changes in *Shadowlands* can be found in the levelling system. When they enter the Shadowlands max level players will be dropped from level 120 to 50, and work towards the new level cap of 60. The idea is to make levels feel meaningful again.

"I don't think we did a great job between levels 110 and 120," admits Patrick Dawson, production director. "It felt like you were getting weaker every time, like you weren't gaining enough new talents and abilities. But the journey from 50 to 60 in *Shadowlands* will feel a lot better. You'll really feel like you're becoming more powerful."

Shadowlands is also making a fun change to the Death Knight class, opening it up to all existing races. If you've always wanted to roll a Pandaren version of Arthas, or a tiny evil fox man lord of evil, your dreams have come true. The expansion will also offer new customisation options for characters, to help make your hero stand out, and a new infinite dungeon called Torghast.

Known as the Tower of the Damned, Torghast is an otherworldly prison where the most dangerous, terrible souls in the universe are locked away. This sinister place will feature some of *Shadowlands*' toughest trials, but delving into its depths will be worth the risk.

WHEN THEY ENTER, MAX LEVEL PLAYERS WILL BE DROPPED FROM LEVEL 120 TO 50

"You can go in there and get runes which can then be used to create Legendary items," says level designer Sarah Verrell. "You take the runes you find to a runeforge and you get to choose which stats and abilities they have. You can create some really powerful items."

SECTS EDUCATION

Covenants are another new feature. You'll have to align yourself with one of several mysterious sects, each with their own plans for how to harness the power of the Shadowlands. Pick one and you'll gain access to their sanctum, a place where you can pick up unique quests. Your covenant will also grant you new abilities.

As for the new zones, these include Bastion, which features gleaming spires and sweeping vistas, and Revendreth, a gloomy gothic village dominated by a looming keep. This is one of the darkest *World of Warcraft* expansions yet and also one of the most unique – it looks full of good reasons to return to Azeroth.

Andy Kelly

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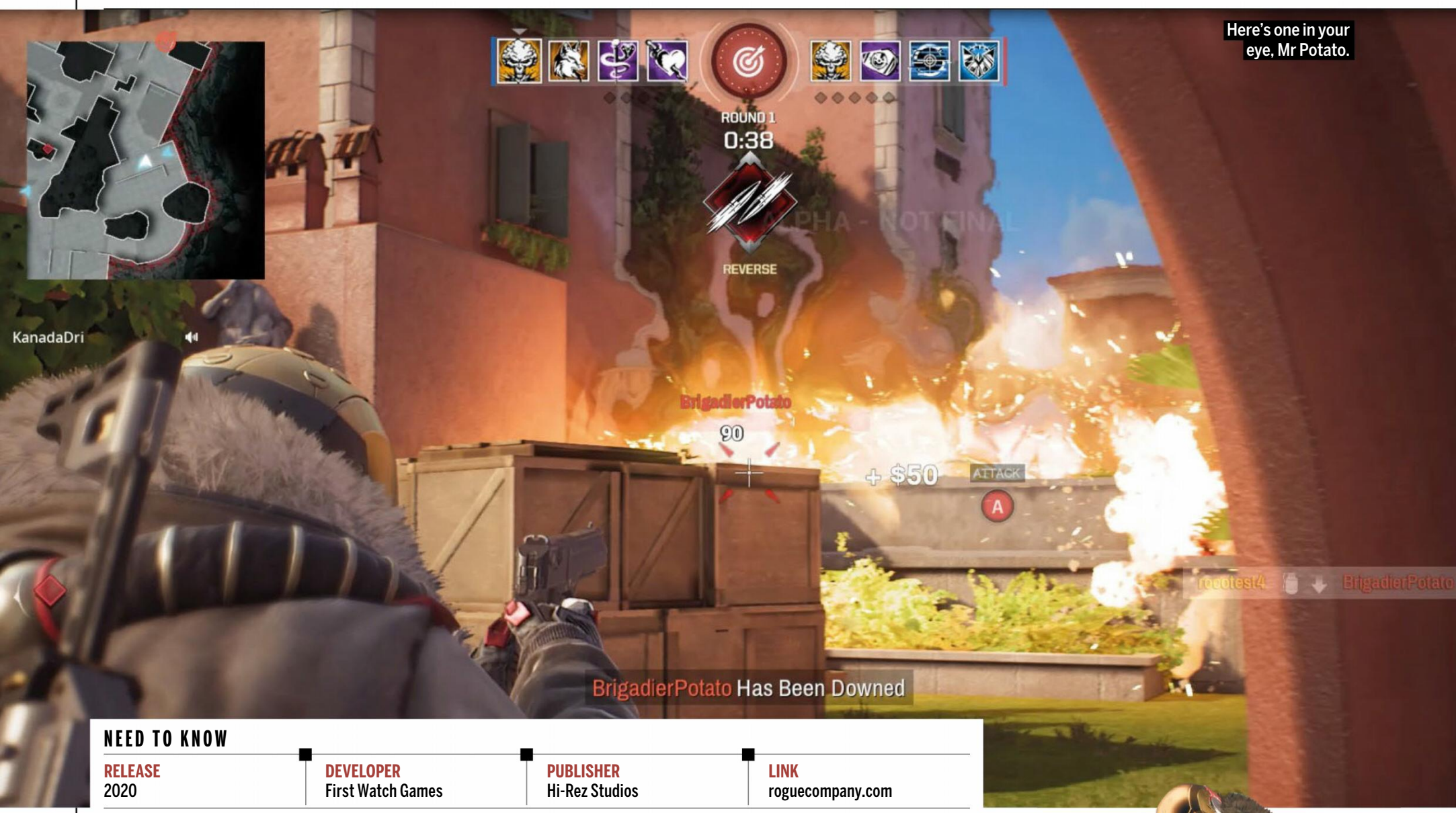
SEAGATE

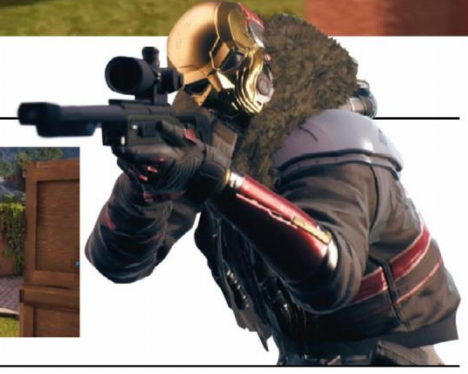
Rogue Company



NEED TO KNOW

RELEASE	DEVELOPER	PUBLISHER	LINK
2020	First Watch Games	Hi-Rez Studios	roguecompany.com

ROGUE COMPANY



Coming out with all guns blazing

Jumping out of a hoverplane with the rest of my four-person crew, I cast an eye across *Rogue Company*'s industrial canal map. I can see the opposing team in the sky, their red contrails giving me some basic information on where they'll make landfall.

PLAYED IT

Rogue Company is Hi-Rez's third-person multiplayer shooter. I'm playing the 4v4 Extraction mode where you earn victory from hacking an objective, counter-hacking an objective, or – because this is a shooter – mowing down every one of the opposing team and forcing them to sit through a replay of your winning kill.

You start the game with a secondary weapon and some loose change – enough for a grenade of some kind, or maybe an upgrade to that secondary weapon. As each round begins you'll get to use the shop again, spending the cash you've earned through wins, successful revives of teammates and so. It's *CSGO*-ish but the class-based twist means items and perks differ from mercenary to mercenary rather than being the same for everyone.

I upgraded my pistol before jumping out of the plane, so I need to pick a landing point. While I'm airborne the game uses a blue grid to mark the play area and glowing triangles for the starting points of the three main routes through the map. I think the enemy team mostly headed to the right so I swoop left. I'm hoping to buy time to learn the layout a little before the firefighting begins in earnest.

I really want to tell you that this approach went perfectly to plan. That nobody got flanked. That nobody forgot they had bought a smoke grenade. That they absolutely remembered to use their character's special ability which lets them revive themselves. That they definitely didn't die behind a shipping container. That they definitely equipped their primary weapon once they bought it. That... Actually, none of you were there so you can't fact check what happened – *everything went to plan!*

I STARTED DEPLOYING GADGETS LIKE TRIPMINES WITH MORE FINESSE

BRING ALL YOUR WEAPONS

While everything went to plan my growing map familiarity started to pay off. Flanking routes stopped catching me out, and I started deploying gadgets like tripmines with more finesse, making it easier to protect certain areas or to force the enemy to change route. I was also delighted by the hotkey for swapping between right and left shoulder view.

Despite some gadgetry and the character abilities *Rogue Company* (or at least the 4v4 Extraction mode and the 2v2 Wingman mode) prioritises shooting. Map knowledge and shop purchases can give you an edge but ultimately you're a person with a gun, in a world of people with guns, solving people-with-gun problems by being more competent at guns.

Philippa Warr

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Grounded

NEED TO KNOW

RELEASE	DEVELOPER	PUBLISHER	LINK
Spring 2020 (Early Access)	Obsidian Entertainment	Microsoft	obsidian.net

GROUNDED

Four shrunken kids, one giant back garden

Let's get two things about *Grounded* out of the way right now. First, though Obsidian Entertainment is famous for RPGs like *Fallout: New Vegas*, *Grounded* is not that. It's a survival game. Second, it's definitely not an officially licensed Honey I Shrunk the Kids game, despite how much it looks like one.

The spirit of mad scientist Rick Moranis is coursing through this co-op survival game, which casts you as a teenager, shrunk down to ant size. The world is your literal backyard, and all the typical survival mechanics, like hunger, thirst, and building shelters, are viewed through that tiny lens.

Grounded's setting really helps set it apart from the scores of survival games on PC – it's cute, and evokes that childlike sense of wonder that small, imaginary things do best. And despite having a premise pulled from '80s movies, Grounded still manages to feel original in how it puts small twists on typical videogame interactions.

FIRST LOOK

Instead of finding a lake to get fresh water from, you'll look at the blades of grass that tower above you like trees, find one with a fat globule of dew hanging from it, and punch it to knock the droplet loose.

"Everything you see is interactable in some way, and that's something we're really proud of," says director Adam Brennecke. "All the grass, all the foliage, all the rocks are interactable and can be used in crafting." But it's the insects that populate the world will determine how interesting the game is to play long-term.

GROUNDED'S SETTING REALLY HELPS SET IT APART FROM THE SCORES OF SURVIVAL GAMES

"We have a huge, huge ecosystem of insects living and surviving just like you are," says Brennecke. "They're all doing their own thing. There are hundreds and hundreds of insects in this world. One thing we want to do as game designers is make the world very approachable. Insects behave as you'd expect. Ants behave as an ant colony. They use pheromones to communicate with each other and bring food back to their ant hill. Bees search for pollen in a flower bed."

Obsidian's most ambitious promise with *Grounded* is that you'll be able to significantly affect the environment as you play. Ladybugs hunt aphids for food, so if you clear out the aphids from one area of the map, ladybugs will alter their behaviour to compensate.

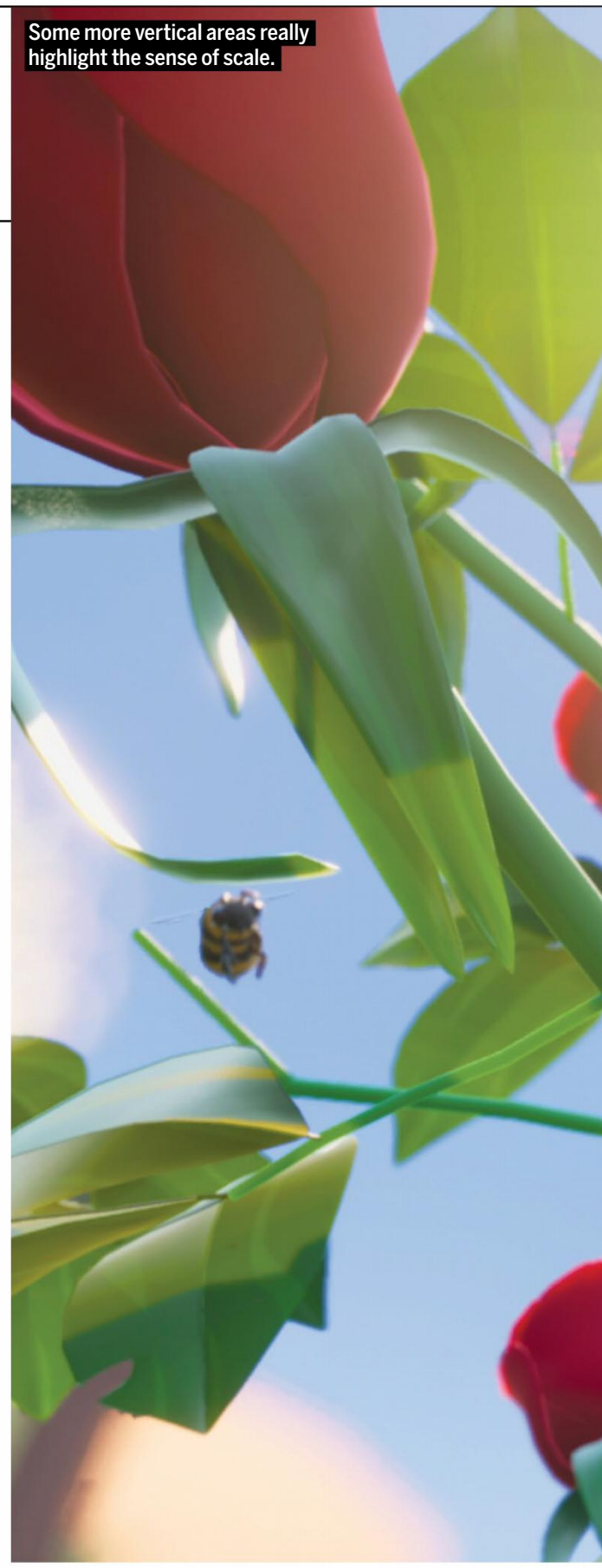
You can't currently make friends with insects, but that's something Obsidian wants to explore. The developer is actually planning to launch *Grounded* in Early Access next year, on Steam and Xbox Game Pass, to shape those features.

BUG OUT

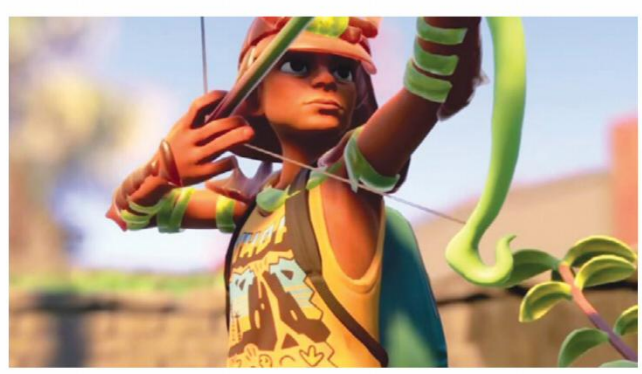
I didn't see much of the crafting systems that will form *Grounded*'s backbone, but I saw enough to think I'd enjoy it simply due to the setting. Chopping up trees and rocks to build a base is Survival Games 101, but trade trees for grass and you've got my attention. Support for four-player co-op is the selling point for me, as is the idea that *Grounded* ends. This isn't a forever sandbox – a story will guide you through the backyard, with some gatekeeping between areas. One part of the yard is covered in 'the haze', aka weedkiller, which you'll need a gas mask to enter, for example.

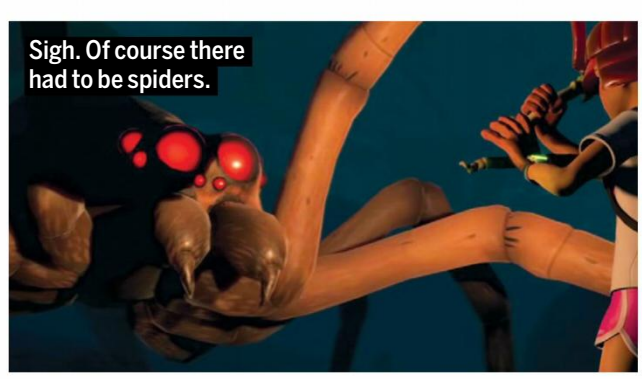
Given just how many survival games there are on Steam, and Obsidian's reputation as an RPG studio, I think it's natural to be a bit sceptical of *Grounded* as the next big thing. But maybe it's okay if it's actually the next little thing – a survival game that's simply pleasant just to explore with friends, without the grindiness of *Ark* or the oppressive 'staying alive' mechanics of *Scum* or *The Long Dark*, and with no designs on being a forever-ongoing game-as-a-service. Just a nice, relaxing time in the backyard. With a few horrifying insects.

Wes Fenlon



Some more vertical areas really highlight the sense of scale.

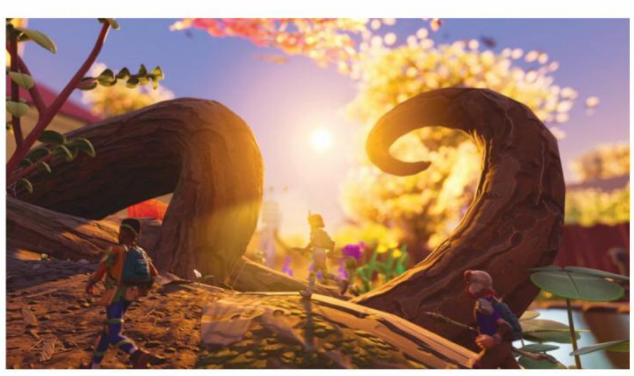




Sigh. Of course there had to be spiders.

Blue highlights show up in co-op to help you build together.

Base-building and crafting are much as you'd expect.



Meteorfall: Krumit's Tale

The dungeons exist nestled in Krumit's fancy cardboard box.

Bramble, King of the Bearbearians, is a tough cookie.

The overworld map. Spot the bum cheeks.

NEED TO KNOW

RELEASE
2020

DEVELOPER
Slothwerks

PUBLISHER
In-house

LINK
krumits-tale.com

METEORFALL: KRUMIT'S TALE

Battle through a box of cards in this roguelike deck-builder

Unfortunately, I was not blessed with the greatest patience in life, and this carries through to videogames. I like punchy combat and quick fights – games that require me to think about strategy are not usually my vibe. But when I spied the loopy characters and tongue-in-cheek art style of *Meteorfall: Krumit's Tale*, I was charmed from the off.

It's a deck-building roguelike that takes place in one of the weirdest settings I've ever experienced in a game: inside a cardboard box. You have been summoned to battle through this card-based dungeon by a mysterious shopkeeper named Krumit, and he has asked you to complete his quest to retrieve some magical items. It's a mystery what you get in return. The honour of being one of the few to playtest his magical new CCG? Who knows?

Each dungeon is made up of a 3x3 grid, created from items in your deck and the dungeon's monsters. To complete a dungeon you need to clear it of all evil do-ers – skeletons, goblins, Bearbearians, the lot – by defeating them in battle. When you remove a tile, a new one replaces it, until there are no enemies left. When you kill enemies, you gain gold that you can use to buy new cards that go into your hand. Items have durability, meaning you will replace them as you progress throughout the dungeon. With cards being used up, your hand is constantly changing, forcing you to switch up your techniques on the fly as you go.

IT TAKES PLACE IN ONE OF THE WEIRDEST SETTINGS I'VE EVER EXPERIENCED IN A GAME

PLAYED IT

CHARACTER BUILDING

Meteorfall: Krumit's Tale is currently in Early Access, with plenty of content updates planned. Currently there are two playable characters and they're both gems. The first is Bruno, a pouty, sassy knight, waving his sword in an enemy's face right before he whacks them. The second, which you have to unlock, is Greybeard, a crackpot wizard always grasping his grubby book of spells.

Both characters have an overwhelming confidence that's oddly infectious, fuelling my boldness to frankly reckless levels. A saving grace has been the ability to discard cards in exchange for a health boost and more gold. You obviously lose that item, but it opens up more options to you as you play. Touches like these make it a flexible and forgiving roguelike, which I'm thankful for, because charging in half-cocked is the only strategy I know.

As you continue further into the map, enemies will have tricks up their sleeves such as poison, piercing attacks, or ambushes, but you can prepare for these crafty foes. In between dungeons you can buy more powerful weapons and equipment to add to your deck, as well as useful perks.

Krumit's Tale also has a great attention to detail that really gives it a gratifying sheen. Purchasable items are found in a dusty, old mint tin that pops open, and the abilities you get are in the form of uniquely drawn postage stamps. Skeletons rattle as you strike them, and the animation is bouncy, fluid, and full of life. I love the way that Krumit himself cackles and coaxes the player on, his long arms curving around the dungeon's cardboard confines.

Every item, map, power and enemy have chuckle-worthy flavour text. The ability cards have some of my favourites, with the Taunt card reading, "Bruno used to practice his taunts in the mirror – 'Come at me, bro!' – But, they were too effective, and he had to stop. Mirrors aren't cheap after all."

Slothwerks estimates that *Meteorfall: Krumit's Tale* will be in Steam Early Access for six to twelve months, but it already has more than enough to be worth checking out now, with more heroes, cards and game modes on the way.

Rachel Watts

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THIS MEANS WAR

How **WARFRAME**'s most ambitious update ever is launching a new era of unprecedented conflict.

By Steven Messner

Warframe

Warframe

Considering the name, it's odd how little war there is in *Warframe*. Plenty of blood is shed as players carve their way through procedural corridors and open-world zones, turning mutant soldiers and cyborg super-capitalists into gravy. But the only real, full-scale battle in *Warframe*'s universe happened centuries ago, an event that looms over the Origin System like an apocalyptic hangover. Until now.

Digital Extremes' next two updates, called *Empyrean* and *The New War*, usher in a new era of chaos and conflict as players unite to repel an all-out invasion by an alien force known as the Sentients. To even the odds, squads will work together to build and pilot a ship in hectic space while also uncovering the truth behind some of *Warframe*'s biggest unanswered questions.

And at the heart of everything is a personal story of family, betrayal and a Canadian game developer making a weird-as-hell shooter that never stops taking wild risks.

"War doesn't start and end in a day," Digital Extremes live operations and community director Rebecca Ford tells me. "When we say '*The New War*', we mean it. You're going to be living a story in a world where parts of it will be barely recognisable after what the Sentients do to it. Expect the world to change, because that's what war does."

TO EVEN THE ODDS, SQUADS WILL WORK TOGETHER TO BUILD AND PILOT A SHIP

DAWN OF WAR

That an army of biomachines-turned-intergalactic gods is coming to obliterate Earth won't be a surprise to any player that's been following *Warframe* over the past two years. When it first launched back in 2013, *Warframe* had no real story or setting to speak of – Digital Extremes was too busy trying to avoid bankruptcy to worry about why the space ninjas were angry. But in the years since, *Warframe*'s world has blossomed into a vibrant and alien universe.

At the centre of that winding epic is The Lotus, the mysterious woman who first awakens players (called Tenno) and guides them through much of their adventures in the Origin System. Voiced by Ford, The Lotus started as a glorified quest-giver before gradually evolving into *Warframe*'s most iconic character, a kind of maternal guardian to the Tenno.

That *Warframe*'s community refers to both Ford and The Lotus as 'space mom' is a testament to how deep this relationship has become over the years. In a solar system dominated by mutant super soldiers, greedy capitalists and a monstrous plague, The Lotus was one of the players few allies. Until she wasn't.

During one of *Warframe*'s recent quests, Digital Extremes unleashed a devastating twist when it was discovered that The Lotus wasn't so much a human woman but a biological machine that belonged to a family of sentient terraforming constructs that were fired into deep space to make the nearby Tau system inhabitable centuries ago.

The Sentients soon realised their masters, the creators of the Tenno and warframes, were pretty evil.

So they rebelled.

ABOVE: You can disembark and fight (or board) enemy craft using your Archwing.

The conflict that ensued all but destroyed The Origin System and The Lotus (known as Natah) was discovered to be a sleeper agent meant to destroy the Tenno. But she betrayed her family and adopted the Tenno as her children instead.

Now, for reasons we don't know, Natah has reunited with her family and is helping wage all-out war against the denizens of the Origin System, Tenno included.

"The stakes are colossal," Ford says. "It's a classic Shakespearean family drama mixed into *Warframe*. It covers everything from betrayal to parental abandonment. There's such a complicated formula for what The New War is going to do, and that is rooted in who The Lotus was before she took that name. What was her family history, and what is her goal?"

APOCALYPSE NOW

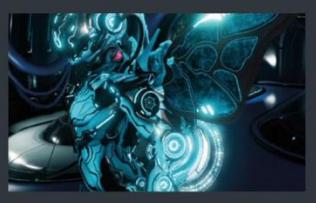
When *The New War* was first announced, Digital Extremes expected it to take the form of one of *Warframe*'s 'cinematic quests' that

THE NEW WEIRD

Warframe *has added some odd features over the years*

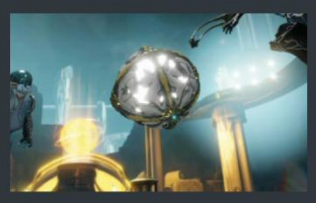
OCTAVIA'S MANDACHORD

It's a warframe that comes with a built-in synth so you can buff your friends while making them listen to Darude's Sandstorm.



HELMINTH CYST

This infection presents as a pink cyst on your neck and will spread to other players you come into contact with. You can drain it and use the pus to make a puppy.



LUNARO

Even space ninjas need a day off, and Lunaro is the perfect way to relax. This casual sport is like *Final Fantasy X*'s Blitzball only without the water.

have slowly been added to the shooter over time to flesh out its world and characters. Typically, a cinematic quest can be finished in a few hours or days, but as Digital Extremes chief operating officer Sheldon Carter tells me, the team quickly realised the story they wanted to tell was just too big.

"The way we look at it now is that this entire year we're launching the war," Carter explains. "It's not like the way we released *Fortuna* or the *Plains of Eidolon* where it's like, boom, here's all the content right away. This is us being as much of a 'live game' as we can be where over this next month, you're going to start building a ship while we give you the backstory behind that, and then we're going to start launching that first offensive. And as the war progresses – as things get more and more intense – the technology will change and ideas will change. We really want *Empyrean* to be the start of a whole new way to play *Warframe*, but also a whole new way of how we're going

to roll out content." The result, Carter hopes, is a story that naturally evolves over time throughout most of 2020, with the stakes getting higher as more is discovered about Natah and her Sentient family. What that actually means is anyone's guess – and I'm not even sure Digital Extremes has a concrete plan either.

Ford says this is intentional. Digital Extremes wants to buck the trend of live-service games meticulously planning years of content ahead of time using road maps – something that it fell victim to at the start of 2019. "What happens then is you don't have a surprise and you don't have a world that feels alive," Ford says. "You have a product that feels like a result of an investor's meeting 12 months ago. It's kind of where we are right now.

"But, holy crap, is that not the opposite of what an entertainer wants to do. As entertainers, we want to turn the game up.

"We want the world that players have invested their time into to fight back, to give them something new. And if you have a whiteboard leading that conversation, you have a stakeholder playing your game. But if you have a Tenno, a player in your game that realises that their character is about to embark on a new era of *Warframe*, that feels a lot better."

THE FINAL FRONTIER

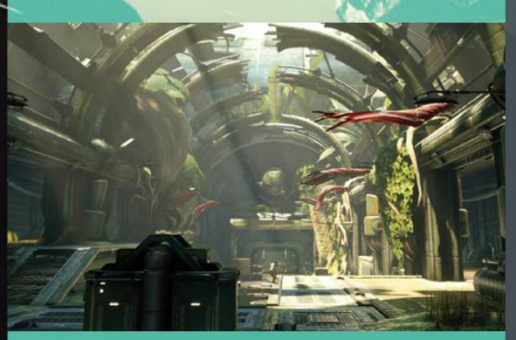
How *The New War* will end is anyone's guess, but you can bet that *Empyrean*'s new ship, called the Railjack, will play a major role. Though the war will be fought on various fronts, Railjack is a brand new mode that is unlike anything else in *Warframe* to date. It plays something like indie strategy game *FTL* but in a third-person shooter. You and up to three friends take control of a ship in open space combat, and each person specialises in a certain role like piloting or

RIGHT: The fight against the Sentients must, apparently, be fought in space.

BABY'S FIRST 'FRAME *Here's the best two 'frames for new players*

RHINO
This warframe can take a hit thanks to its second ability, Iron Skin, an enormous boost to health and armour. Give him a shotgun and go nuts.

FROST
The king of crowd control, Frost can immobilise entire packs of enemies or create enormous snowglobe shields to protect allies.



manning weapon systems. In addition to maintaining the systems aboard the Railjack players can also disembark via their Archwing flight suits and hijack enemy ships or invade installations. These segments play out similar to *Warframe*'s procedurally generated corridor levels, only there's the added layer of space combat happening around you. For example, while one Tenno is invading an enemy spaceship to sabotage and destroy it from the inside, another might be repelling an enemy boarding party on the Railjack while a third is working to put out fires that have spread on the ship and are disabling key systems.

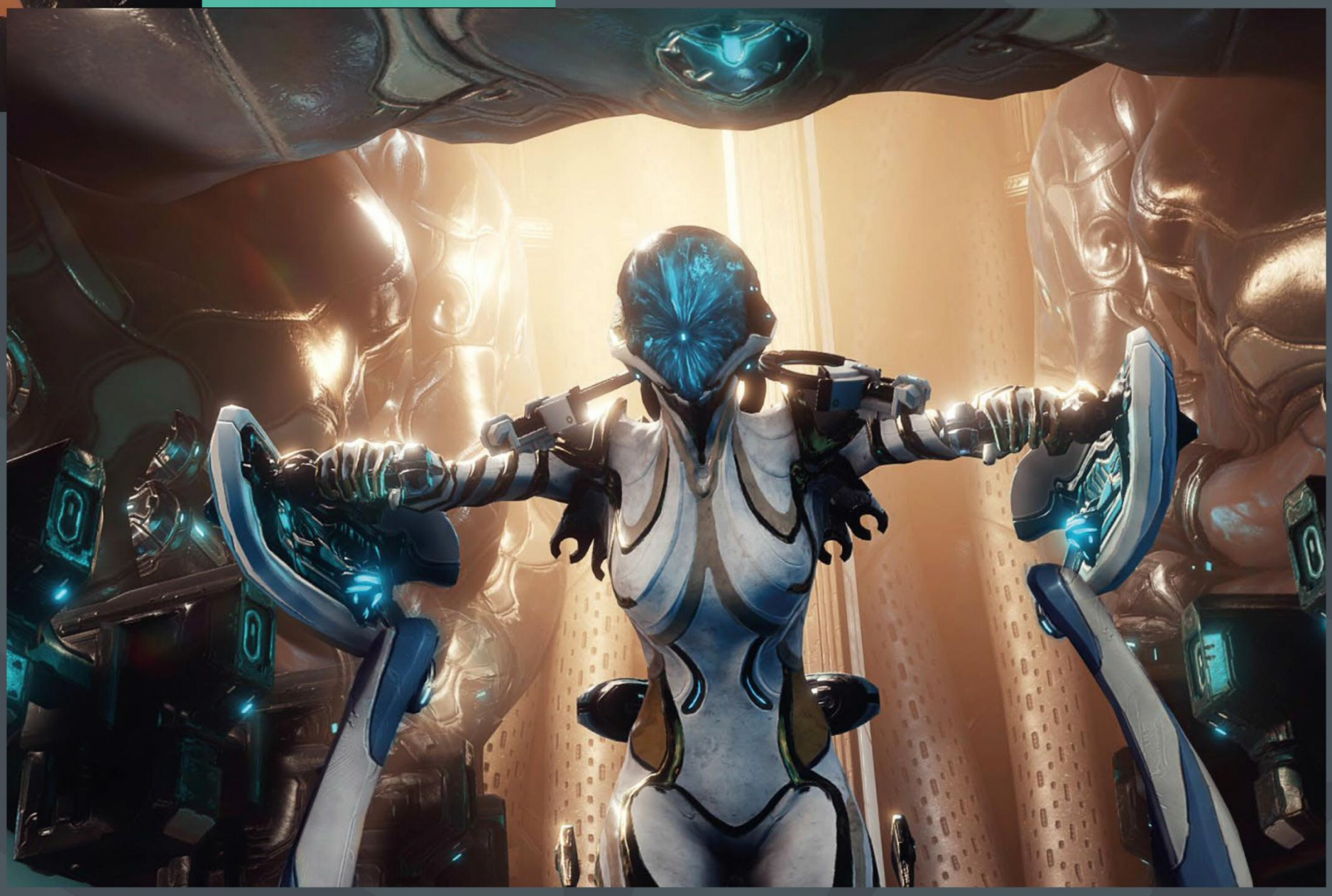
Things can get even more complicated when you consider options like Squad Link, which lets you request assistance from other squads doing entirely separate missions in *Warframe*'s universe. If the second squad accepts your request, they'll receive a dynamically generated secondary objective in their own mission that, when completed, will help the original squad aboard the Railjack.

It's an update so transformative to *Warframe* that Carter says the team has had to break it into smaller pieces and stagger the rollout of various features just to manage its scale. "I can't think of anything we've done that's been as hard as this," he admits. "It's totally different than anything we've done before because there's a lot of moving parts."

PLAYERS CAN ALSO DISEMBARK VIA THEIR ARCHWING FLIGHT SUITS

Initially *Empyrean* was planned as one big release, but now it's broken into stages. In the past few weeks, players gained access to the Drydock so they could begin the process of building their own Railjack ship. In mid-December, they'll be able to take it on preliminary skirmishes against the Grineer faction. Going forward into 2020, the Railjack will be one of the few weapons players have against the Sentients in The New War.

Each planet in *Warframe* has its own unique aesthetic for its maps, and *The New War* will introduce a new one for The Sentients, Ford tells



me. What that means exactly Ford wouldn't say, but she suggests players will soon go on the offensive, striking at the heart of the Sentient invasion force – an enormous Giger-esque mothership that is, quite literally, Natah's own mother. "It's this super gothic, almost *Doom*-esque, cathedral of Sentient architecture that players will be able to access soon just to start setting the stage for *The New War*," she says excitedly.

BLOOD, SWEAT, AND FEAR

That *Warframe* is adding co-op ship combat while also launching a months-long narrative arc that could reshape The Origin System as we know it isn't actually all that surprising. *Warframe* has been a vessel for Digital Extremes' crazy ideas since the start. Ford recalls launching surprise attacks on the social hubs orbiting planets, where players can gather or take on special quests. Players had to defend them or risk losing access to them permanently. "Everyone was like, 'What the hell? Did they just destroy a part of the game?'," Ford laughs. "And we totally did."

WARFRAME HAS BEEN A VESSEL FOR DIGITAL EXTREMES' CRAZY IDEAS

But *Empyrean*'s Railjack is special not just because it's so different to anything else in *Warframe*. It represents Digital Extremes being able to realise a decade old dream – one that no one but it believed in.

Both Carter and Ford remember those days when Digital Extremes was simply a work-for-hire studio desperate to make its own game. Called *Dark Sector*, it was supposed to be an innovative MMO-esque shooter about space pirates exploring uncharted space and hijacking enemy ships. But no publisher wanted it. "I remember a publisher came in – I won't say who it was – but they were just laughing, like, 'You developers are all insane!'," Sheldon says.

To make *Dark Sector* more alluring, Digital Extremes stripped out most of its weird sci-fi concepts and developed it as a singleplayer shooter and released it in 2008. But as the years went by and it got harder to stay afloat, Digital Extremes once again returned to its original idea for *Dark Sector*. Hoping to imitate even a fraction of the success of burgeoning free-to-play games like *World of Tanks*, Digital Extremes' last-ditch effort was *Warframe*.

With time and money running out, Digital Extremes had to cut almost every major feature of their original *Dark Sector* idea just to stay afloat. One of the most ambitious of those lost features was ship-to-ship space combat. "It just wasn't a game we could make," Ford says. "We didn't have team size. We didn't have the foundation to make that game at all." But even though they didn't have the resources to make Railjack a reality back then, those unique circumstances became the crucible for *Warframe*'s enormous success.

Carter says those years as a work-for-hire studio gave Digital Extremes an uncanny ability to prototype and come up with new ideas at a ridiculous pace – exactly what a live-service game would need to keep players interested. "We're wolves," Carter adds. "It's a part of our DNA. Part of the way we work is that we're scrappy, and we don't ever want to be satisfied. There's so many ideas that we had for the original *Dark Sector* ... and *Warframe* is this amazing vehicle for us to be able to explore those things and to try them. Obviously, Railjack and *Empyrean* is one of the biggest ones, but it's just the start really."

ABOVE: The New War promises to push the game's already unique aesthetic into even weirder realms.

RIGHT: The Sentients are, as their name suggests, artificially intelligent beings that have gained self-awareness.

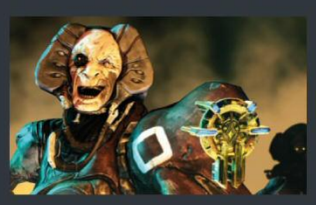
FIGHT ON

The New War and *Empyrean* feel like a major turning point for *Warframe*. *The Fortuna* and *Plains of Eidolon* open-world zones certainly made the world feel bigger, but being able to fight in space feels like a new frontier.

Until now, movement through the solar system has been confined by Junctions, a kind of hyperspeed railway that connects *Warframe*'s planets. But during *Emyprean*'s initial reveal trailer, Digital Extremes gave players one hell of a wink when, at the end, the Railjack engaged its warp drive and blasted off into the great unknown. It's hard to not take the implication that one day – maybe in the distant future – players will venture beyond the Origin System to whatever is beyond, but Ford says it's still undecided.

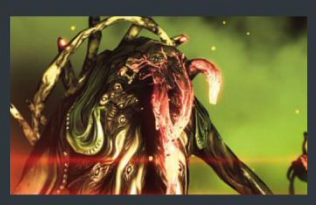
FACTION WARFARE

Get to know the threats facing The Origin System



GRINEER
Centuries of cloning have ravaged the bodies of this mutant army, leaving them no choice but to rely on cybernetic implants to overcome their disorders.

CORPUS
A cult of capitalists unified by an obsession for Orokin technology, the Corpus prefer to use robots to do their dirty work for them and not get their hands dirty.



INFESTED
The remains of an ancient Orokin bioweapon, the Infested are Grineer and Corpus troops infected with technocytes that have turned them into monsters.

"I honestly don't know," she laughs. "I think everyone's afraid of what saying yes or no would mean to the consequences of the story. But I think for us, having announced the Tau system is where the Sentients fled to for so long, we kind of owe our players at least a glimpse of it."

The fact that the question is even on the table for a game that, just a few years ago was little more than an endless corridor shooter, is remarkable. And as *Warframe* continues to grow and mutate, Digital Extremes' vision is keeping pace. "The ambition of *Warframe* is not to be just a corridor shooter or an open world shooter," Carter tells me. "It's to be like Star Wars. I'm not saying we're ever going to hit that. But our ambitions are on that level. We don't want to make *Warframe 2* or *3*. We don't want to make another game. We want this game to be giant, and for the people who love it and play it like this is their main hobby, we want *Warframe* to be that thing they're going to love for another ten years." ■

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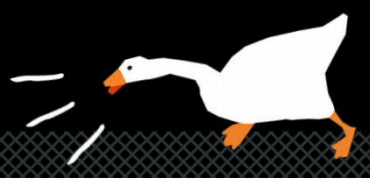

PC GAMER

GAME OF THE YEAR

2019

Celebrating another fantastic year for PC gaming

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PC GAMER BEST ONGOING GAME 2019

SEA OF THIEVES

Chris: No matter what kind of pirate you are, Rare added something to *Sea of Thieves* for you this year. Fishing is the perfect activity for solo players with a nice array of fish that can only be caught in certain parts of the world and sometimes only in specific conditions. PvP-hungry pirates got the option for finding quick, chaotic matches in the Arena instead of having to sail for ages to find human opponents. And the lore-heavy Tall Tales are perfect for a few hours of co-op sailing and puzzle solving with friends, and most Tales are even doable alone. Plus, if you're the kind of pirate who likes to spend real dubloons, there are pets now, too. The beautiful world of *Sea of Thieves* always had potential, but this year it finally grew into it.

Wes: Completing all the Tall Tales with a PC Gamer crew was maybe my favourite gaming experience of 2019. The most memorable felt like a true adventure: we used a magic spyglass to navigate by the constellations, which eventually lead us to treasure. Rare's designers really excel at giving you scraps of clues that you can just barely decipher. Every time I assumed I couldn't possibly have come to the right conclusion, the sound of a shovel striking a treasure chest made me giddy.

Also, there was that time I casually swung my sword at Tyler right when he picked up an explosive barrel, instantly killing our entire crew and sinking our galleon full of treasure. Sorry about that, guys, but it was really funny.

Fraser: I was done with *Sea of Thieves* before my Game Pass trial was over, but I've since bought it and made it one of my few live service games. I'm hooked. Over the course of countless updates, it's finally managed to live up to the imaginary pirate game I conjured up in my head when it was first announced. But for all the new additions it's the simple things that keep me coming back. Leisurely sailing around with a crew, reading treasure maps and traipsing across snake-infested islands still takes up most of my time.

Phil: It's a shame that fighting skeletons and other players still feels so bad, with no weight or heft to your strikes. Ground combat in general is always the low point of any voyage. But the sailing and ship combat and sense of adventure is so good that it always makes up for it. ■

THE BEAUTIFUL WORLD OF SEA OF THIEVES ALWAYS HAD POTENTIAL

PERSONAL PICK

Evan Lahti

REMNANT: FROM THE ASHES

This co-op shooter resurrected something that I thought the internet had killed: trading game secrets and tall tales with your friends. It rolls a semi-unique world for each player – it took me a dozen tries to kill the tree dragon, but my buddy fought a towering ent in his campaign. "Oh yeah, and did you find the guy who sells soup? Talk to him 25 times and he gives you his pocket watch which can..."

PERSONAL PICK

James Davenport

SESSION

A 900 Christ Air to Darkslide in *Tony Hawk's Pro Skater* is easier to pull off than a kickflip to noseslide on a low curb in Early Access skater *Session*. Its control scheme matches a foot to each stick for the most realistic board manipulation yet. Small lines are major victories, complex combos that require the perfect angle, momentum, and inputs from two sticks at once. *Session* isn't just one to watch. It's one to play right now.

PC GAMER BEST REMAKE 2019

RESIDENT EVIL 2

Wes: This is just primo grade-A videogame, right here. Capcom updated a classic, tightly designed game with smooth modern action and managed to retain the low-level anxiety and occasional bursts of terror that early *Resident Evil* excelled at. As the series got bigger and more bombastic, it lost what *Resident Evil 2* did so well: giving you an explorable space small enough to keep in your brain as you poke around. That's what makes it so pleasurable to criss-cross the police station, opening up new paths between rooms and solving goofy puzzles. It remains a tight game, finishable in ten hours, but with enough secrets and weapon choices to be fun a second time through. It's a shame Capcom didn't make Claire and Leon's campaigns more distinct, but that's the only weakness of this remake. For the most part, it's better because of how restrained Capcom was in adding to what already worked.
Andy K: This return to a smaller, more considered *Resident Evil* is the best the series has probably been since its PlayStation heyday. More than just a retread, *Resident Evil 2* takes the essence of the 1998 original and transforms it into a fresh and excitingly modern game. The floppy, unpredictable physics of the zombies make for some brilliantly dynamic combat, with the shambling creeps tumbling down stairs when you shoot their legs off, or falling into each other creating a slapstick domino chain of undead. And the increased presence of Mr X, the fedora-wearing giant, is a welcome change, with the sound of his pounding footsteps creating a powerful sense of dread. I wouldn't say *RE2* is scary, but it's impossibly tense, especially when you're low on supplies.
Tom: The police station is a deeply satisfying space to explore. The game tails off a bit after that section, but it's a beautiful nest of interlocking corridors full of threats and secrets. Capcom has done a great job of modernising *Resident Evil* for 2019. The game has the over-the-shoulder *Resident Evil 4* perspective, but uses it to create claustrophobic horror. Bullets are precious, the zombies are persistent, and the scares are legit. ■

PC GAMER BEST CHARACTER 2019

UNTITLED GOOSE GAME

Chris: There's a weird pleasure to playing a bad guy in games, but it's often coupled with a bit of guilt over the terrible things you do, and punishment in the form of a 'bad ending'. Not so in *Untitled Goose Game*, because you're not really evil, you're just supremely annoying. You're not killing or even hurting anyone, you're just kind of ruining their afternoon for no reason. And that's incredibly liberating. You can be an asshole goose with a clear conscience, which makes it all the more fun.
Jody: The NPCs treat you like you're just an asshole goose too. No matter what you take or how much you torment that one kid they just shoo you off. Steal as many of the farmer's things as you like, he's never going to get a gun. Any other stealth game would escalate to the point where you have to reload a save point, but because you're just an annoying bird *Untitled Goose Game* never has to. The next time some stealth game makes me play an assassin I'm going to wish that I was the terrible, wonderful goose instead.
Andy K: I love the goose. It is pure chaos energy. The magic for me is in the animation. It expresses so much through its body language, strutting around like it owns the place, snapping things out of people's hands. And that honk. It's just perfectly obnoxious and mischievous. There's more character stuffed into that bird than the entire casts of some games, which is a feat, really.
Phil: Andy's right. Essentially what we're doing here is saying the best character in PC gaming this year was a white blob with a beak and some little orange legs, but the animations – the walk, the honk, the I've-just-stolen-your-rake backwards run – all exude the sort of no-fucks-given energy that feels so perfectly at home in a goose. *Untitled Duck Game* wouldn't work. *Untitled Swan Game might* work, but swans often feel more menacing than horrible. *Untitled Human Game* would just be depressing. But the goose is such a perfect foil to House House's pitch-perfect depiction of rural British life; annoying enough to ruin your day, but not threatening enough to actually do anything about. ■

PC GAMER BEST ACTION 2019

SEKIRO: SHADOWS DIE TWICE

Harry: Like many, I suspect, I considered giving up on *Sekiro*. I wasn't even very far, either, but my stumbling block came in the shape of a nondescript general: Tenzen Yamauchi. To jog your memory, this is the foe with a smattering of soldiers around his perimeter, and an aggravating sentry that loves nothing better than to bang his drum and tell everyone where you are. Once you find a method for defeating them, that part is easy. Unless you get repeatedly murdered by their superior.

With each demise, I got sloppier. If I did manage to challenge Yamauchi unscathed, I'd be promptly sent packing. I felt like crying. I was beginning to think that perhaps these games just weren't for me. I'd heard that *Sekiro* was a game that just clicked with you, and I waited for that moment as if I'd taken a drug, ready for it to take effect (err, or so I imagine).

Then, suddenly, it did: sitting between the cautious defensiveness of *Dark Souls* and the offensiveness of *Bloodborne*, I realised that *Sekiro*'s combat demanded an understanding of both. I got it. The awful sounds of Wolf's punctured flesh were replaced by the delightful *tings* of successful blocks, and Tenzen was defeated shortly after. The layers of Sekiro's combat system only unravelled from that point, which is a testament to its depth and inch-perfect precision.

James: Holding both my middle fingers in the air for the damn ape that don't quit, a gesture of rage and respect and despair; my feelings for *Sekiro,* distilled.

Tom: The combat is sensational. The parry system essentially gives enemies two health bars – vitality and poise – that you can attack in different ways. If you can parry well enough to put an opponent off balance, you get the satisfaction of a gory instant kill, but you can also wear down a tough enemy's health bar by dodging and striking strategically. For some foes, this is the only way you can eventually bring them down.

SEKIRO CREATES GLORIOUS SAMURAI SHOWDOWNS

The combat system shines brightest during some incredible boss battles. The fight with Genichiro matches ninja against ninja in a remarkable spectacle. It may be one of the best boss fights in FromSoftware's rich catalogue. It's rare to have such intense combats with a single human enemy, but *Sekiro* creates glorious samurai showdowns that reward persistence with cathartic moments of victory.

It's a game that rewards skill, and the joy of *Sekiro* is learning its punishing combat system over the course of 40 or 50 hours, all while exploring a beautiful, mythical depiction of Sengoku-era Japan. As you fight through the world the gritty, guard-infested towns give way to more magical areas and enemies. It's a wonderful, memorable journey with enough rich lore to satisfy *Dark Souls* nerds like me. James is right, though. Fuck that ape. ■

PC GAMER BEST SETTING 2019

CONTROL

Tyler: *Control*'s brand of weirdness is familiar – Neil Gaiman, Stephen King, and George Saunders come to mind – and that's Remedy's thing: it never hides the influences of its metaphysical playgrounds. But it'd be unfair to call *Control* a pastiche just because it's smooching on Stanley Kubrick and internet creepypasta so hard. It's Remedy's funniest game, bursting with original, creative micro-stories about rubber duck stalkers, redacted catastrophes, and hyperreal motels. Its protagonist isn't the most interesting person, but every single note found in its 1950s office building of cosmic anomalies and interdimensional monsters is worth reading.

Rachel: An unassuming office building – not a typical setting for an action-packed supernatural game, but *Control* turns the at-first banal environs into something wonderfully sinister. Everywhere the order of bureaucracy and paperwork is corrupted by chaotic, malevolent forces. Investigating its meeting rooms, labs, and corridors feels like peeking behind the curtain of mundane life and seeing things meant to be kept hidden.

Andy K: The stark, brutalist architecture of the Oldest House makes for a wonderfully evocative and setting. And the way the walls shift around you, forming new spaces in real-time, is the perfect accompaniment to the game's mind-bending storyline. Max Payne and Alan Wake's worlds were steeped in the visual language of TV and cinema, but this feels like Remedy's first truly original setting, taking elements of the iconic set design of legendary production designer Ken Adam and turning it into something unique.

THIS FEELS LIKE REMEDY'S FIRST TRULY ORIGINAL SETTING

Phil: I don't know how many people watched mid-2000s TV miniseries The Lost Room, but I'm glad there's finally a game that does its mundane-becomes-supernatural premise justice. By marrying that core concept to the minutiae of civil service bureaucracy, *Control* proves a rich playground for Remedy to subvert and satirise. One of my favourite areas is Dead Letters, a dumping ground of missives describing potentially paranormal sightings – many of which are probably anything but. It's rare that I'll hunt down every note, video and recording in an action game, but *Control* is so packed with fun twists on sci-fi concepts that I wanted to know everything I could about its world. ■

PERSONAL PICK

Chris Livingston

OUTWARD

There's such an interesting blend of ideas in *Outward*. Deep survival systems don't *sound* like they'd mesh well in a game where you can never actually die. And though *Outward* has plenty of rough edges, it was one of the most engrossing experiences I had this year. It's a game where travelling from one city to another is a long and gruelling journey that requires lots of planning, and minor victories feel like major triumphs.

PERSONAL PICK

Phil Savage

ANNO 1800

This is the best *Anno* game in years, which should be music to the ears of anyone who loves to spend their entire Sunday working out all of the resources they need to give their town the sewing machine factory they've become convinced will propel it to financial security. And by "they", I mean "me". The reward is a detailed, gorgeously rendered industrial settlement that you're proud to say you built... if only it had a coachmakers.

PC GAMER BEST EXPANSION 2019

FINAL FANTASY XIV: SHADOWBRINGERS

Steven: I'm just going to go ahead and say it: *Final Fantasy XIV* is the best *Final Fantasy* game ever made. Though it's an MMO, Square Enix has stuffed it full of the endearing characters and exciting fantasy worlds you'd find in any of the single-player games, only here they're a part of a seven-years-and-counting incredible journey that gives *Final Fantasy XIV* an unparalleled sense of scope and adventure.

Shadowbringers, its latest expansion, is the Avengers: Endgame of *Final Fantasy XIV* – a thrillingly high-stakes story that pulls upon the previous seven years of world-building to create an intricate and surprisingly human story. Sending the main cast into an alternate dimension at such a critical moment in the main story might seem like a needless diversion, but Square Enix doesn't squander the opportunity to deepen the backstory and motivations of its chief characters while also throwing wide the gates on some of its biggest mysteries. It's full of cutscenes that capitalize on climactic twists and turns, giving *Shadowbringers* a kind of dizzying sense of scale and adventure. At the same time, it shows an uncommon mastery over what really makes MMOs fun. There's still some annoying grinding here and there, sure, but each dungeon and boss fight is truly spectacular and unique, driven by a rousing soundtrack. The new zones are lush and fun to explore, and each class has been reworked to trim the fat and further refine what makes them special.

FINAL FANTASY XIV IS THE BEST FINAL FANTASY GAME EVER

James: *Heavensward* is better by miles (sorry, Steven), but *Shadowbringers* is still a pretty good season in the epic melodramatic anime MMO. I played through from the start this summer, over 200 hours of MMO bullshit, endless fetch quests made more than tolerable – fun, actually – by excellent characters, world-building, tunes, and psychedelic dungeons that err more towards interactive music visualizer than the usual MMO stuff. What other game pits you against a celestial monster made of light miles above the planet? ■

PERSONAL PICK

Fraser Brown

MAN OF MEDAN

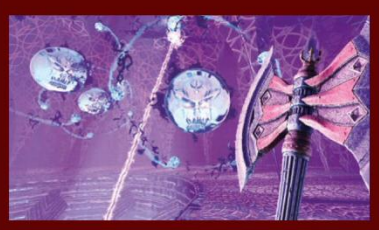
A solid ghost ship horror romp that becomes something very special in co-op. You control a group of friends on a spooky ship either by passing the controller or playing with one other person simultaneously. The former perfectly captures the experience of watching some B-movie horror with your mates, but the latter is where the magic happens, cleverly splitting you up and making you question if you can trust your partner.

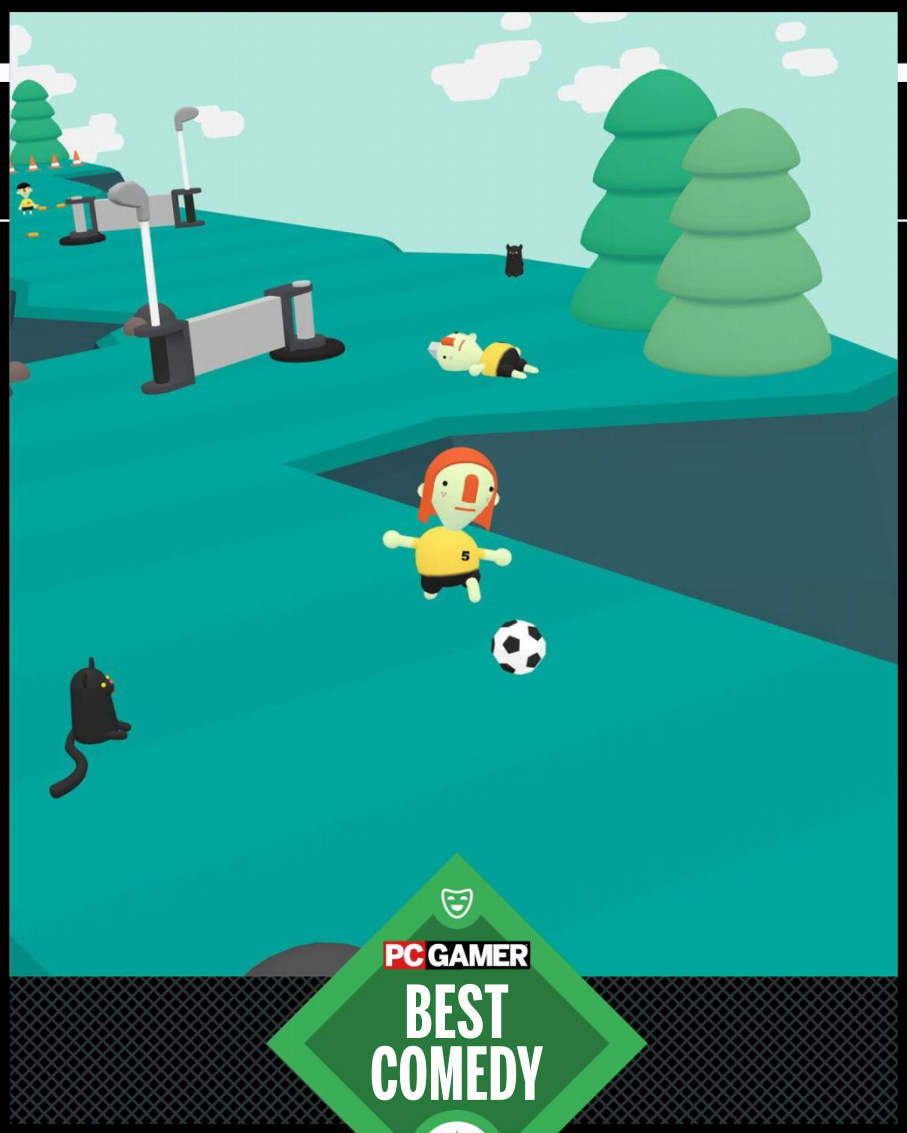
PERSONAL PICK

Wes Fenlon

AMID EVIL

None of these other personal picks have a staff that hurls shrunken planets as grenades, so they're not as good as *Amid Evil*. Along with *Ion Fury* and *Dusk*, it's part of a thrilling '90s FPS revival that prioritizes speed and madness. Every one of its worlds has a unique aesthetic and set of enemies ripped from heavy metal album covers. Hell yes, I'll fire a black hole gun at a room full of space wizards. I will also use a trident to explode snakemen – thanks!





WHAT THE GOLF?

Chris: Laughter is often the result of surprise, and there are few games quite as surprising as *What the Golf?* Each of its holes has three stages, and each stage gives developer Triband another chance to catch you out. That structure itself is a surprise, because the stages don't always (or even usually) get progressively more difficult, but are instead geared for comedy twists. In stage one, maybe you shoot an arrow at a target (note: *What the Golf?* is very rarely actually golf but can include archery, bowling, horseback riding, racing, and even first-person shooting).

In stage two, instead of a single arrow a torrent of them bursts from your bow to litter your target – weirdly making it a challenge to miss rather than hit. In stage three, maybe you draw back the bowstring and instead of an arrow, your little archer goes sailing through the air instead.

You never know what the hell is going to happen in *What the Golf?*, and that in itself is funny. Most holes are brief to solve, and there's a different (and often hilarious) celebratory message after each stage of each hole, meaning the gags and laughs stack up at a ridiculous pace.

Harry: The anarchic splendour of *What the Golf?* is designed to be shared. From the main menu you can select a mode which is essentially a potted elevator pitch. The meta level that connects each three-part hole is dispensed with in favour of consecutive highlights, which is perfect for showing a friend the unbridled joyfulness of the game of not-golf.

In my experience the game only needs a couple of minutes to get someone chortling. It starts by lulling them into a false sense of security – the first level simply requires you to stick the ball in the hole. So far, so traditional. But, as soon as your ragdoll avatar is unceremoniously flung towards the flag in a later hole, rather than the ball, the person you're introducing to *What the Golf?* immediately knows what the game is all about: having fun for its own sake.

James: *What the Golf?* is so consistently surprising and subversive I wouldn't have been mad if the final level slingshotted my computer out the window. ■

TOTAL WAR: THREE KINGDOMS

Wes: I'm 30 hours into a *Three Kingdoms* co-op campaign where I'm conquering all of southern China as Sun Jian. Meanwhile, my friend and neighbour Yuan Shu has had to become a vassal, then join an alliance, just to stop Cao Cao from trampling him. I keep giving him food out of pity. It's been illuminating to see how dramatically differently *Three Kingdoms* can play out depending on your starting faction. That's not completely new to *Total War*, but *Three Kingdoms* is by far the most character-focused game in the series, and the personality it injects into each faction is its greatest strength.

I won a nearly impossible battle against an army double my size by sending Sun Jian himself onto the field to duel a faction leader and killing him at the very start of the fight. His army never recovered from the morale hit. I also infiltrated a spy into Yuan Shao's army, but was so determined to win that battle I inadvertently killed my spy in combat, too. So, that's a thing that can happen.

Fraser: *Shogun 2*, formerly the best historical *Total War* game, has been deposed. I put the 'historical' caveat there because my heart still belongs to *Warhammer*, but so much of that is down to setting and character. *Three Kingdoms* has everything else, and it's still blessed with a great setting and an abundance of personality. The campaign, battles, diplomacy – they're all the best they've ever been. The last one in particular seemed like a lost cause, but no, *Three Kingdoms* finally made interacting with other factions outside of combat engaging. It's a miracle.

When diplomacy fails and fights kick off, they straddle the line between historical and fantasy *Total War* brawls. You've got grounded, historical units with swords and spears and not a magical weapon among them, but then you've got heroes, who do get special weapons, along with flashy abilities and super strength. They can change the course of a battle, as long as they don't get defeated by another hero in a deadly duel. ■

PC GAMER BEST DESIGN 2019

SLAY THE SPIRE

Evan: Walking in the footsteps of other PC Gamer GOTYs of yore (*Into the Breach*, *FTL*, *Spelunky*) *Slay the Spire* is a series of difficult, pleasant epiphanies that you acquire through failure. Oh, relics might be more important than cards. And huh, maybe removing cards is just as important as adding them. I'm starting to think block is more important than damage. Wait, this boss isn't the real end boss? A lot is owed to how transparent *Slay the Spire* makes information and enemy intents, which stacks some certainty into each shuffle.

Tyler: I love that it's not just about getting to the last fight. You have to be godlike enough to live through it. I take a lot of risks during each run, because I know it's all for nothing if I limp up to the final boss (the real final boss) with anything less than combos that make angels weep.

Every decision I make is about that final encounter. I'll take on an early boss fight with 15 HP to my name if I don't think healing is the right thing to do in the long run, and the delayed gratification when high risk choices I made floors earlier pay off is sweeter for the wait.

Wes: That feeling when, after stacking buff after buff, you channel an entire maxed out arsenal of lightning orbs as Defect, and watch the bolts smash down one at a time for a boss's entire health bar. Damn, it feels so good.

Evan: I think there's two things at work there, Wes: the lively, concussive sound design of those lightning strikes, ice avalanches, a dozen overlapping knife pokes, or, my personal favourite, poison canisters that bounce like a sing-along ball between enemies, dousing them in toxin. But secondly: for how many games are about power accumulation, surprisingly few manage to allow you to achieve that feeling of outsmarting the game's systems. *Slay the Spire* invites you to beat it by breaking it. Sometimes this means stumbling on an infinitely-looping build, like pairing Unceasing Top ("Whenever you have no cards in hand, draw a card") with cards that allow you to discard your hand.

EVERY DECISION I MAKE IS ABOUT THAT FINAL ENCOUNTER

Evident in the whole experience is the depth of understanding that the game's designers have for the deckbuilding and roguelike genres. It isn't a coincidence that one of these designers, Anthony Giovannetti, runs the largest *Netrunner* fansite on the internet.

Chris: Speaking as someone who doesn't typically play card games, I'm so impressed at how easy it is for a complete newbie like me to grasp the essentials and immediately start having fun – while also getting a sense of the depth of the design.

Slay the Spire is also incredibly mod friendly which means players have been adding characters, cards, and even entirely new rulesets, making it even more replayable than it already was. ■

PC GAMER BEST OPEN WORLD 2019

RED DEAD REDEMPTION 2

Chris: It's not just the breadth and beauty of the world Rockstar built but the amount of things to do in that world and the lack of real pressure to do any of them until you're ready. *RDR2* doesn't have the desperate insecurity of a Ubisoft world where every metre of the map has a shotgun spray of icons or a rampaging animal bursting from the bushes, as if a mere moment of silence will leave players confused and unsure of what to do. There are plenty of radiant encounters in *RDR2*, but you're welcome to ignore them while you ramble, and there are just enough animal attacks and roadside robberies to keep you on your toes.

And, of course, it's a gorgeous and incredibly detailed place to spend your time, from the foggy bayous in the south to the freezing mountains in the north, from small, dusty towns to the bustling, sooty city of St Denis. The wildlife is widely varied and realistic – it's fun to watch hawks swoop down and pluck fish from a lake or squirrels scatter at the approach of your horse. Dramatic shifts in the weather often leave me staring in wonder at a massive lightning storm – though *RDR2* does tend to overdo it on the fog. Exploration is rewarding and can lead to some surprising discoveries if you're diligent, including a vampire, a UFO, and even a time-traveller.

James: And then there's *Red Dead Online*, which we'll surely be talking about for years. It's going to be the perfect haven for old west roleplayers, a massive stage on which I will give my greatest performance: wizened mountain-dwelling varmint hunter. While it's lacking a lot of the finer touches found in the singleplayer, there's still something special (and horrifying) about spending a few hours lazily floating around a pond, fishing with a friend in what might be the most advanced, expensive entertainment simulation ever made. Because it's the simple pleasures that truly make *RDR2* so engrossing. The world is so vast and all-encompassing that I can come up with my own goals and trust it to provide the means to follow through. If I want to plan a roadside robbery and steal another posses' furs, I can. If I want to run around St Denis and invite everyone to the saloon for a barroom brawl, I can. Or if I just want to live a simple life, selling furs to earn enough for a nice hat and parka, I can. ■

IT'S THE SIMPLE PLEASURES THAT TRULY MAKE RDR2 SO ENGROSSING

PERSONAL PICK

Andy Kelly

OBSERVATION

After releasing thrilling horror anthology *Stories Untold*, indie studio No Code upped the ante with this atmospheric sci-fi thriller. Set aboard an intricately realised space station, *Observation* sees you playing as an AI that has somehow become sentient. Tense and claustrophobic, the game features both an intriguing, slow-burning mystery plot and some clever puzzles based around arcane computer interfaces.

PERSONAL PICK

Steven Messner

METRO EXODUS

Metro Exodus is haunting and the atmosphere of its various open world zones is superb. The shooting is still a bit clunky, the stealth downright sucks and the story isn't great, but few games so vividly imagine life after a nuclear apocalypse. Trading the linear corridors of the Moscow metro for open deserts, forests and hinterlands was an excellent decision, and I love the way these zones still feel expansive without being overly cluttered.

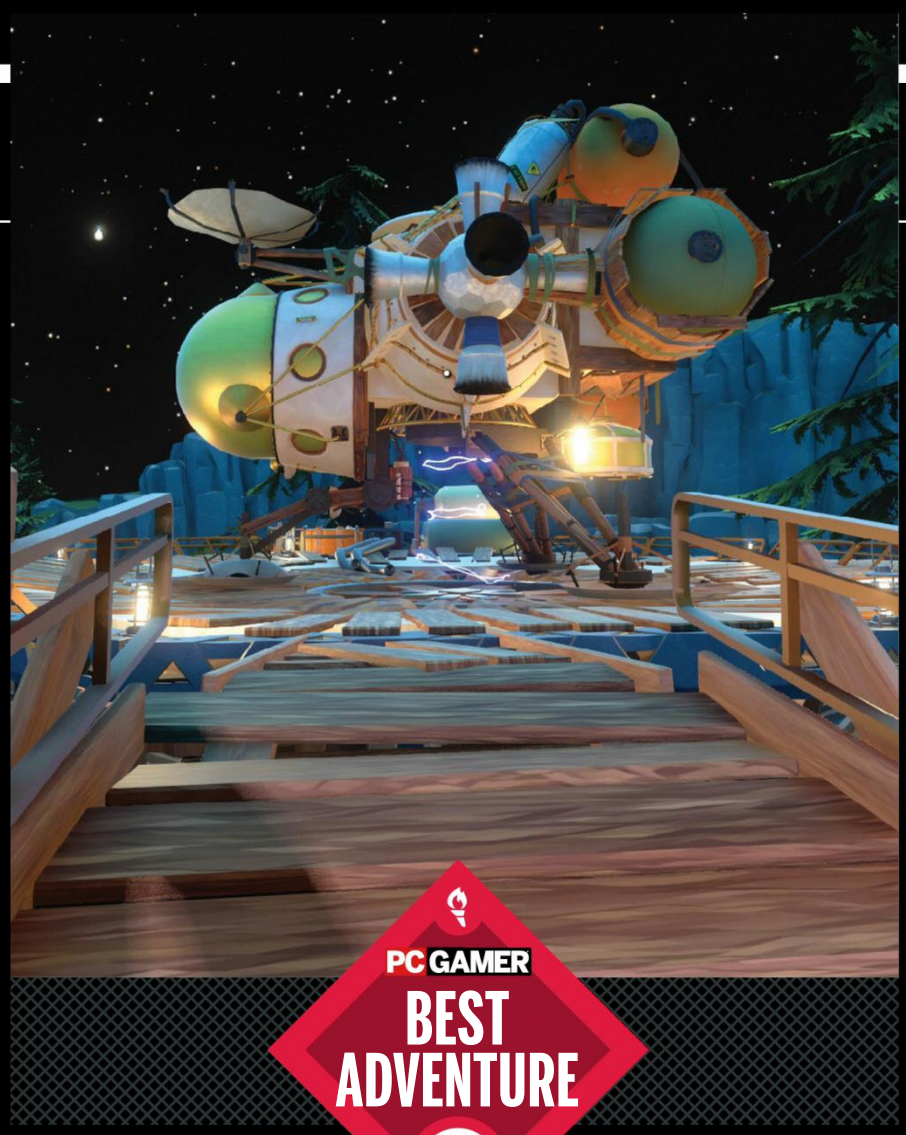
PC GAMER BEST FPS 2019

APEX LEGENDS

Evan: A year in, it's the athleticism of *Apex Legends* that elevates it above its FPS and battle royale peers. *Apex* contains a decathlon worth of verbs: crouch-slides, dropship nosedives, trampoline leaps, zipline ambushes. These moves aren't gimmicks, but tactical and expressive manoeuvres that service the inherent fun of transitioning between biomes while under fire: adopting a better defence by zipping your friends to a higher elevation, pulling off an epic Kraber headshot while sledding your body down a glacier, or simply crouch-sliding between a set of supply bins so your looting is six seconds more efficient.

This is a shooter about the urgency of movement. But it's also meaningfully slower than games that make up its DNA, like *Call of Duty*. Because its time-to-kill is one of the longest in the genre, gunfights aren't just a contest of who sees who first. A clash with the enemy can unfurl into a multi-minute story with clutch revives, smoke-grenade misdirection, artillery area denial, and tactical armour theft.

We can't forget *Apex*'s ping system, of course – an innovation that peers like *Fortnite* have already absorbed. This system allowed me to find moments of chemistry with total strangers, to assemble back-to-back wins with people who didn't speak my language. **Phil:** The ping system might be the best FPS innovation of recent years. Obviously it's an essential part of play when I'm with a matchmade team – giving ad-hoc teams a suite of contextual communication options that enable cooperation between total strangers. But also, it makes me a more efficient teammate when I'm playing with friends too. As someone who too frequently makes calls like "players over there", as if my teammates should be able to intuit where I perceive "there" to be, the ping system augments my imprecise speech with precision markers. The specificity of it just makes everything much easier – like being able to mark specific loot drops that I already know are of interest to a member of team. Forget other games: I want to have *Apex Legends*' ping system IRL, too. ■



PC GAMER BEST ADVENTURE 2019

OUTER WILDS

Rachel: I've put my janky little wooden spaceship through hell in *Outer Wilds*. Crashing into planets, plummeting into black holes, botching up landings, and spinning wildly through the void is all part of the joyful experience of exploration.

I've lost count of the number of times I've smashed it up beyond repair. Within *Outer Wilds'* brilliant time loop, sometimes there's no time for a pin-point perfect landing, you've just got to crash and dash. But when things reset it'd always be back in one piece again, waiting patiently for me – the perfect companion as I solved a mystery that encompasses the outer reaches of the solar system and beyond. **Tom:** *Outer Wilds* gives me a sense of wonder. Space phenomena like black holes feel mysterious and dangerous, and the looping time cycle allows you to die in lots of horrible different ways, sometimes crushed by an asteroid, sometimes lost in the infinite darkness of space as the universe explodes (again).

As you explore each weird planetary body you come to understand an ancient lost civilisation through their writings and strange machinery. That's not a new premise, but it's executed beautifully in *Outer Wilds*. **Phil:** It's a game about exploring a solar system, with the hook that the system in question is pretty small. It's just five planets (and a few moons), most of which you can easily walk the circumference of, but that are each packed full of intrigue. You have just 22 minutes in which to explore them before the sun blows up and you're reset back to the start. Thanks to that time loop structure, *Outer Wilds*' currency isn't *things*, it's *thoughts*, and that makes for a fascinating adventure. You pick at the frayed edges of mysteries in an attempt to unravel some deeper understanding, uncovering new leads and new questions that you file away for further investigation on the next loop. Sometimes you drop one thread for a bit and go and investigate something else. Sometimes you turn up at a planet ten minutes earlier and find it looks vastly different. *Outer Wilds* is beautiful and sad and filled with stories that are worth discovering. ■

DISCO ELYSIUM

Jody: The Drama skill would like to explain that what makes *Disco Elysium* great is how it coherently draws together influences from outside of videogames, that it combines 1970s cop dramas with David Fincher deconstructions of detective stories and China Mieville city-building. The Encyclopedia skill feels obliged to mention that it's also synthesizing the politics of post-Soviet Estonia and, in its glib moments, the hellsite called Twitter. Conceptualisation would like to add the importance of its impressionist art style and equally impressionist music, both moody and yet not without colour or incident. My Electrochemistry skill really needs a drink if I'm going to carry on with this.

Disco Elysium's skill system, which transforms each of your character's abilities into NPC companions who pipe up with their own opinions and commentary more often as you put more points into them, is a revolutionary addition to roleplaying games. It forces you to see even trivial choices as coming to define who you are, and because of that it gets away with only occasionally throwing in a Big Moral Choice while still ensuring you finish it with a strong conception of who you've become.

Just as significant is what it leaves out. I took part in one fight and skipped an optional one and that's all the combat I saw in 30 hours. RPGs use combat as a pacing mechanism (and often as a padding one), so for *Disco Elysium* to throw that away and not be any lesser for it is huge. It's like someone kicking away a crutch and then running a marathon.

Wes: I was so excited when I started doing some real detective work, finding the notebook I'd lost during one hell of a drunken bender. Within it were clues to my forgotten identity, the backstory I needed to understand who I was. Like any other game, *Disco Elysium* prodded me to open it and investigate, to solve the riddle. And then, unlike any other game, it made me question whether I really wanted to know my past. Was that really who I was? Or could I be someone new? What a thrill, to deliberately throw away a plotline. What catharsis! And I know my makeup of skills changed which inner voices chimed in at that moment, yanking my mind in different directions, making me really choose what I thought. So many RPGs are defined by what you do, but *Disco Elysium* is defined by what you think. I've never played anything like it.

DISCO ELYSIUM IS DEFINED BY WHAT YOU THINK

Fraser: *Disco Elysium* is challenging. Not in the way *Dark Souls* is challenging, but in its presentation of ideologies, addiction, racism, morality, it's a lot to digest. Your amnesiac detective is built out of personality traits, obsessions and beliefs, so you're always encouraged to explore who you are and what you make of the society you're stuck in. I became a communist for the funny dialogue options, but by the end I'd had serious discussions about its merits and flaws. I've never played another RPG that gives so many opportunities to define my character. ■

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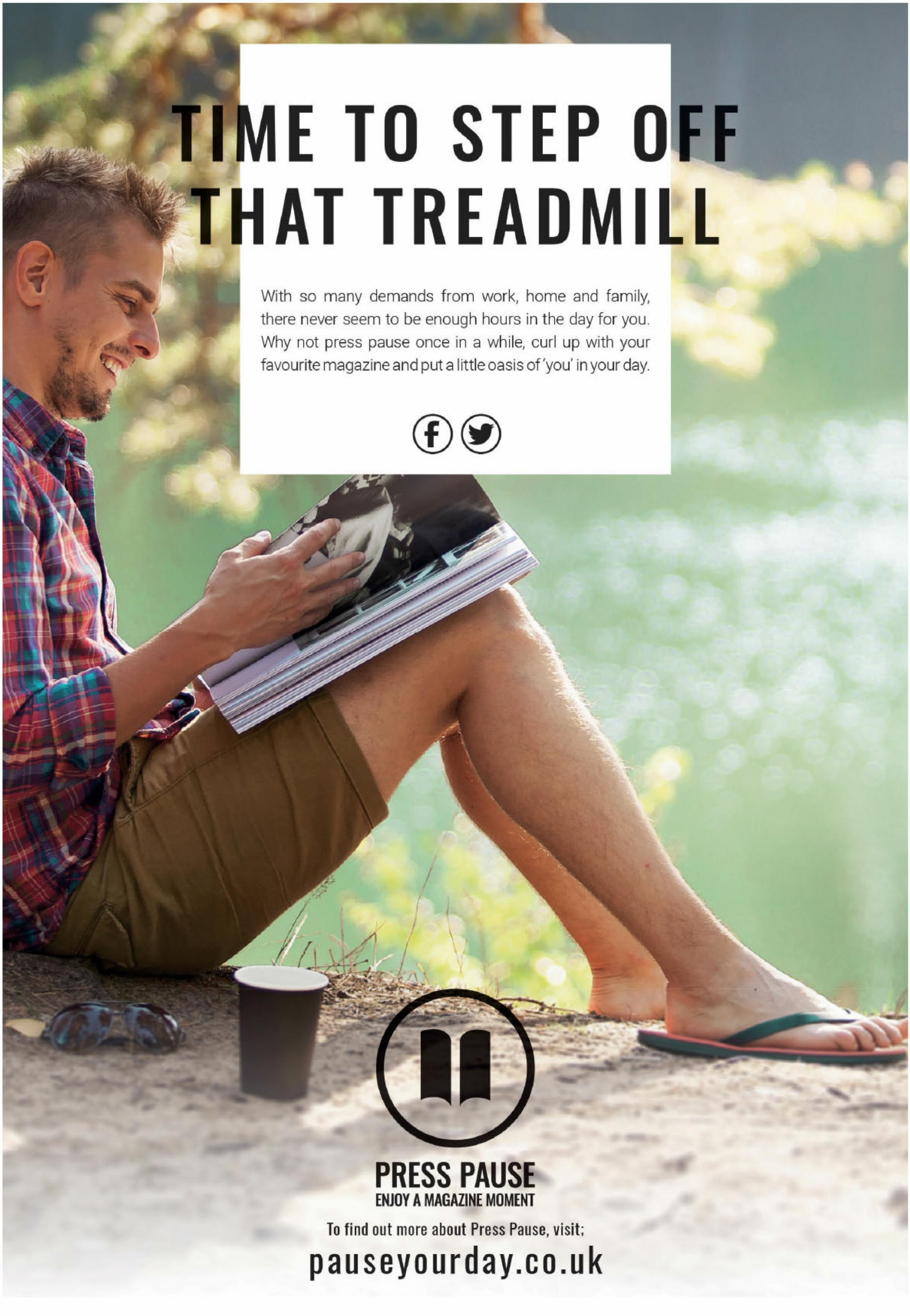

TIME TO STEP OFF THAT TREADMILL
With so many demands from work, home and family, there never seem to be enough hours in the day for you. Why not press pause once in a while, curl up with your favourite magazine and put a little oasis of 'you' in your day.
PRESS PAUSE
ENJOY A MAGAZINE MOMENT
To find out more about Press Pause, visit;
pauseyourday.co.uk

PC GAMER

REVIEW

HOW WE REVIEW

We review each game on its own merits, and try to match it to a reviewer who's a passionate expert in the field. The main aim of reviews is to help you make buying decisions. To this end, we're selective about what we review, and try to focus on the notable, interesting, exciting or surprising.

DOWNLOADABLE CONTENT

DLC might be new missions for a game, or it might be a single new item. If we think you want to know about it, we'll review it.

EARLY ACCESS

Any released alpha, beta, or otherwise unfinished game that you can currently pay for. For these games, we won't assign a score, but we will tell you whether they're worth your time.

THEY'RE BACK

Whenever there's a bargain or re-release of a significant game, our expert will revisit it and tell you whether it holds up today. With jokes.

OUR SCORING SYSTEM EXPLAINED

00%-09% Broken or offensively bad; absolutely no value.
Example *Leisure Suit Larry: Magna Cum Laude*

10%-19% We might be able to find one nice thing to say about it, but still not worth anyone's time or money.
Example *Gettysburg: Armored Warfare*

20%-29% Completely falls short of its goals. Very few redeeming qualities.
Examples *Family Guy: Back to the Multiverse*

30%-39% An entirely clumsy or derivative effort. There's little reason to play this game over a similar, better one.
Examples *Trials of the Blood Dragon*

40%-49% Flawed and disappointing.
Examples *Aliens: Colonial Marines*

50%-59% Mediocre. Other games probably do it better, or its unique qualities aren't executed well.
Examples *Primordia*, *Homefront: The Revolution*

60%-69% There's something to like here, but it can only be recommended with major caveats.
Examples *No Man's Sky*, *Ghost Recon: Wildlands*

70%-79% A good game that's worth playing. We like it.
Examples *Prey*, *NieR: Automata*

80%-89% A great game with exceptional moments or features, and touches of brilliance. We love it.
Examples *Overwatch*, *Night in the Woods*

90%-94% A compelling recommendation for most PC gamers. Important to PC gaming, and likely ahead of its time.
Examples *Bayonetta*, *Dishonored 2*

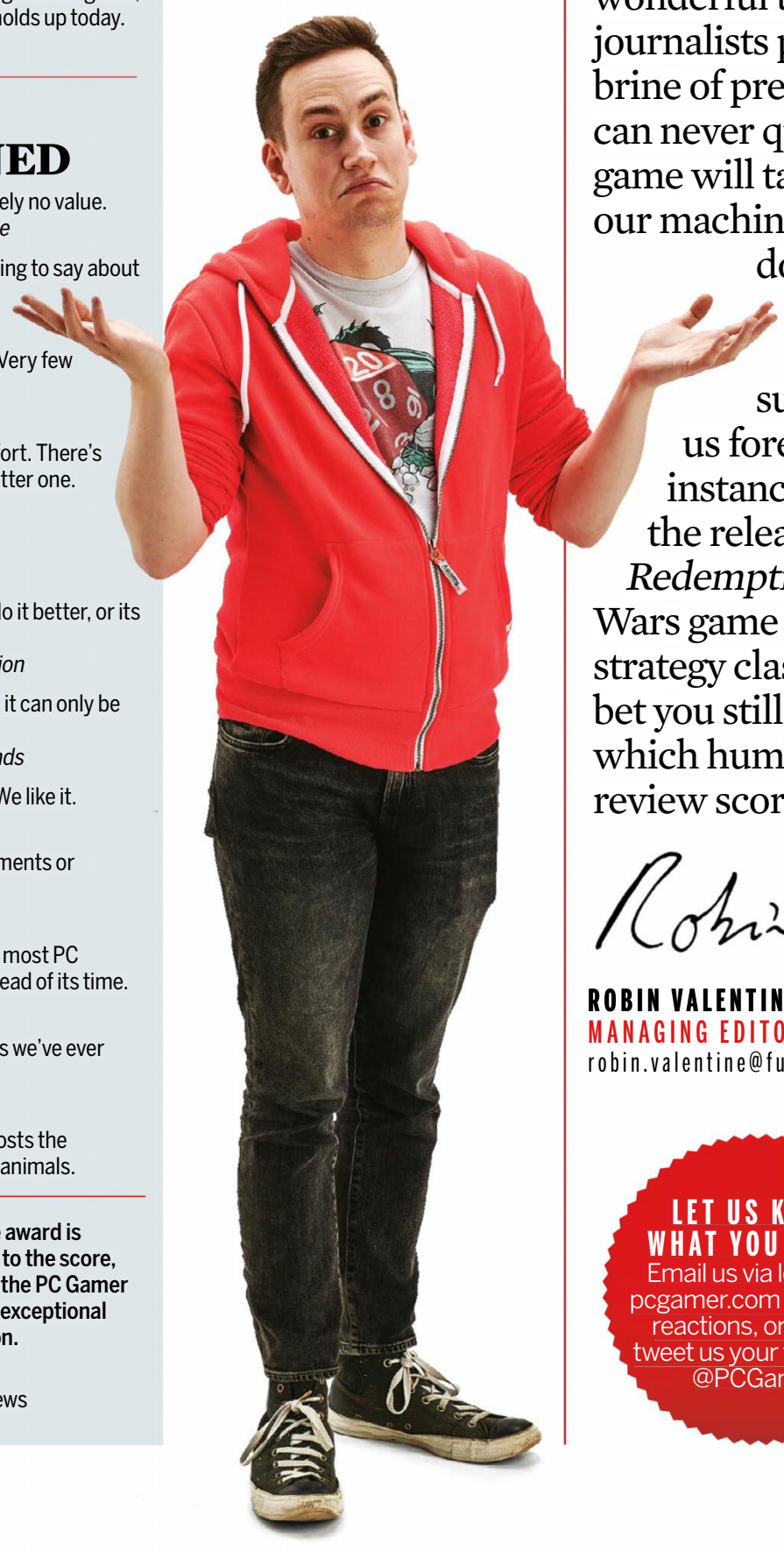
95%-96% Far and away one of the best games we've ever played. We recommend it to the entire world.
Examples *Half-Life 2*, *Kerbal Space Program*

97%-100% Advances the human species. Boosts the immune systems of nearby children and small animals.

PC GAMER EDITOR'S CHOICE

The Editor's Choice award is granted in addition to the score, at the discretion of the PC Gamer staff. It represents exceptional quality or innovation.

Find out more
www.bit.ly/pcgreviews



Quantum leaps

It's here in reviews that months, sometimes even years of accumulated potential collapse into a final, realised form. The wonderful thing is even we, as journalists practically pickled in the brine of previews and hands-ons, can never quite predict what form a game will take when it solidifies on our machines. While that leaves the door open to disappointments, it allows for lovely surprises too – and keeps us forever on our toes. For instance, in a month that sees the release of *Red Dead Redemption 2*, a massive Star Wars game and the revival of strategy classic *Age of Empires II*, I bet you still won't be able to guess which humble game got the highest review score this issue...

ROBIN VALENTINE
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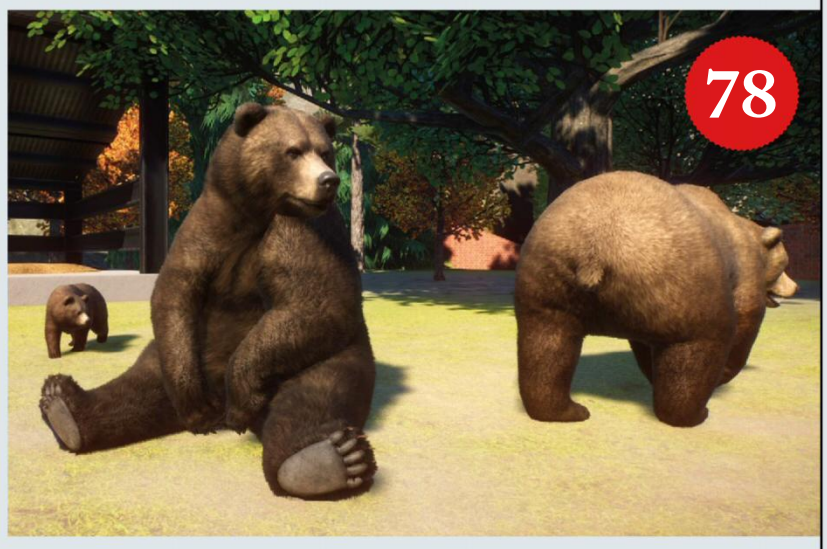
LET US KNOW WHAT YOU THINK
Email us via letters@pcgamer.com with your reactions, or simply tweet us your thoughts @PCGamer



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This month's rootin', tootin', varmint-shootin' reviewers...

JAMES DAVENPORT
Specialist in Keeping his horse's coat nice and shiny
Currently playing *Red Dead Redemption 2*
This month Got wild in the west.

FRASER BROWN
Specialist in Trebuchet maintenance
Currently playing *Age of Empires II Definitive Edition*
This month Took a trip in time all the way back to 1999.

TOM SENIOR
Specialist in Going 'vwoom, *fwish*'
Currently playing *Star Wars Jedi: Fallen Order*
This month Became more powerful than we could possibly imagine.

RACHEL WATTS
Specialist in Embracing eternity
Currently playing *Manifold Garden*
This month Stared into the infinite abyss until the infinite abyss stared back, then solved a puzzle.

CHRIS LIVINGSTON
Specialist in Animal magnetism
Currently playing *Planet Zoo*
This month Became proud papa to a litter of digital aardvark babies.

TOM SYKES
Specialist in Getting bloodstains out of the carpet
Currently playing *Triggore*
This month Was inspired to do a spring clean, for some reason.

MATT ELLIOTT
Specialist in Exciting boredom
Currently playing *The Stanley Parable*
This month Explored the thrilling worlds of digital logistics, economics, and bureaucracy.

BEST WESTERN

The old west is brand new again in RED DEAD REDEMPTION 2. *By James Davenport*

Oh Jesus Christ, what have you done?" ThomasChen978 wants to know why a dozen bodies and a couple horse corpses are piled onto the train tracks bordering St Denis. "You just murdered half the village." "No," I reply, "These are our bodies." We're on round two of growing the recursive corpse pile. My posse got the idea to jump in front of the train after a few rounds of 'Lasso Your Friends And Toss Them Into The Sea'.

Red Dead Redemption 2 has its own bowling minigame, we explain to Chen in a roundabout way, his horror inverting into blissful awareness. Die in *Red Dead Redemption 2*'s shared open world and you'll respawn fast enough to carry your own corpse around.

The guy lines up with us. As the train comes around again, another posse tries to take us out. Chen defends us, but doesn't make it back to the tracks. He falls a few paces away, screaming. It's a scene.

Red Dead Redemption 2 can be the biggest, dumbest videogame ball pit for impulsive children, a story about the forced dissolution of community, or a hiking simulator. It's whatever you need it to be, and good at it too.

The mind-boggling detail making up the massive world of *RDR2* speaks to an obsessive dedication to realism. Like how my friends' characters flinch when I fire a gun near them, how animal carcasses decompose over time, how NPCs react to a muddy or bloody outfit accordingly, how busting through a doorway scares everyone on the other side.

It's hard to believe *RDR2* is so deep and is also a cohesive thing

It's hard to believe *RDR2* is so deep and wide and is also a cohesive thing. But for every unrehearsed multiplayer adventure, a couple of disconnects or crashes to desktop. Rockstar's best story yet is intermittently filtered through a slideshow of frame hitches and freezes. It took a week following launch for any of this to be addressed.

RDR2 is the best western game and one of the best open world games I've ever played. But I'd still have to advise you to wait until it's completely patched up.

NEED TO KNOW

WHAT IS IT?
An open world western drama

EXPECT TO PAY
£55

DEVELOPER
Rockstar Studios

PUBLISHER
Rockstar Games

REVIEWED ON
RTX 2080, i9-9900k, 32 GB RAM, SSD

MULTIPLAYER
Yes

LINK
rockstargames.com/reddeadredemption2/

MORGAN TRAIL

Red Dead Redemption 2's story mode follows the dying days of the Wild West. Capitalism is reducing humans to resources. Indigenous Americans are driven from the plains. Forests are brought down for lumber, the hills gutted for coal, and Arthur Morgan's chosen family is caught in the middle of it all, forced to run, assimilate, or respond with violent protest. They do all three.

Missions are thrilling action sequences or hypnotically mundane portraits of ranch labour and trade, peppered with cutscenes, long-winded animations, and excellent performances. They're just frustratingly rigid, to the point where it feels like I'm following stage directions rather than roleplaying the life the old west. The *RDR2* show is a great one at least, luxuriating in the slow pace of life in the old west.

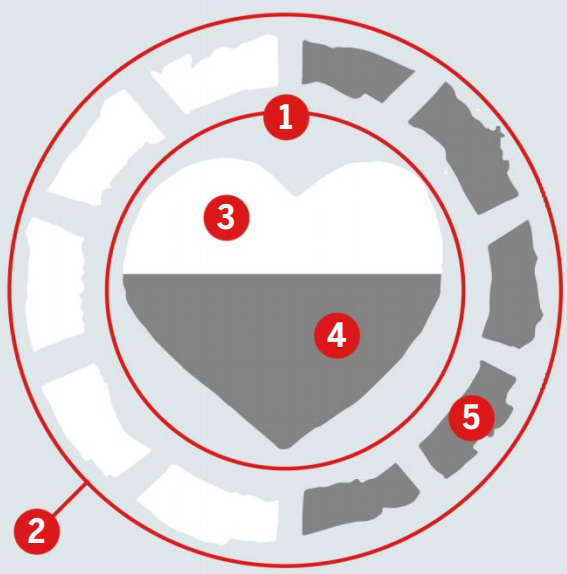
My favourite activities involve shovelling shit, getting drunk with a friend, and a hot air balloon ride. Working through the more rote tasks is worthwhile anyway and it is bolstered by exceptional world-building and characterisation.

Side missions, minigames, small activities, and random world events – whether hunting down legendary gunslingers, catching a play, or stumbling across a woman who happens to be stuck under a horse – all inform Arthur's character and the setting in subtle, enriching ways.

Nested in the third act of a fully animated and voiced theatrical performance, something like ten minutes in, it's possible to press the react button after a performer does a bit involving a telephone. Arthur shouts, "The hell with the telephone!" It's an optional activity, a long one, and reacting in that short window is a choice. Most players will miss it, but it's there because it's something Arthur would say.

He'll sing to himself on lonesome rides and decry his ageing body in the mirror. He'll

CORE STRENGTH *How* RDR2*'s confusing cores work*



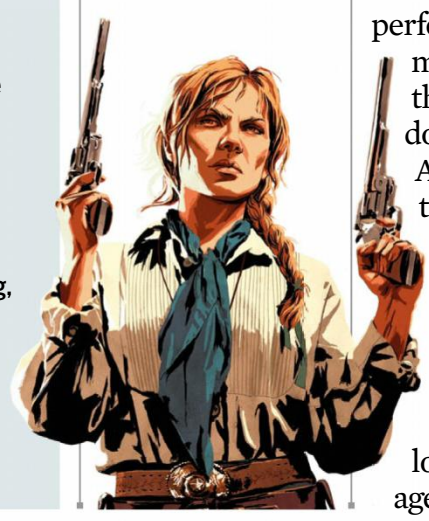
1 Cores: these represent how quickly rings (health, stamina, etc) are recharged.

2 Rings: how much energy you can use. Recharges faster the fuller your core is.

3 Cores drain passively throughout the day, or faster during physical activities.

4 Cores are recharged by eating, resting or in the case of Dead Eye, by killing enemies.

5 Rings' capacity increases as Arthur gains XP from doing activities related to each core.



Now that's what I call lighting.

St Denis is a New Orleans analogue.

A caveman lassos a gator. Mods, baby.

You can nearly feel the humidity.

All those wasted cans!

Arthur's beard grows in real time.

Having a normal one in *Red Dead Online*.

First-person horse care. GOTY.

First-person mode is more than a novelty.

Just breathe.

» write whole diary entries, sketching memorable scenery and reflecting on the state of his chosen family. It's entirely optional reading and a refreshingly intimate take on a traditionally masculine figure who harbours as many doubts and hopes as the next person.

Hillbillies might hold him up after making camp, a couple might attempt to rob him after inviting him over for dinner, a man with a snakebite might come stumbling out of the woods asking him to suck the poison out. These random encounters depict the brutal life on the fading frontier, as nature pushes back against the interlopers who seek to transform it. Arthur is a perfect vessel to see it through.

Every pretty vista is something to lose through his eyes, the skies and his remaining life slowly filling up with factory smoke. Just about everyone sees an unhappy ending in *RDR2*. I won't forget the story's brutal arc or the man in the middle of it all. God damn is it sad. An apocalypse that led to this.

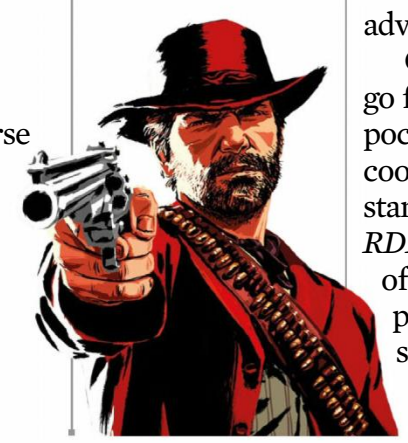
REN DER REFLECTION

Assuming you're capable of running it at higher settings, *RDR2*'s greatest strength is in how it exquisitely renders the old west setting on PC, drawing more attention to the finer details that make it up. It's one of the best looking games I've seen, the rare experience that justifies an upgrade.

Improved draw distances and added vegetation detail at greater distances make some vistas look photographic. Long shadows transform walks or rides between locations from chores to lovely nature tours. Blemishes from animal attacks, bullet holes, rain, mud, or blood mark up clothes in sharp detail thanks to much higher resolution textures, telling little stories about what your friends have been up to.

A new photo mode makes it easy to share those moments of awe. As the kind of player who goes on hikes in *RDR2* just for the sights and sounds, it's a vital feature. I'm desperately trying to get an artful picture of the silhouette of my horse shitting against the moon, yet another self-appointed goal afforded by this massive, intricate game.

With a 2080, i9-9900K and 32GB of RAM, I can run *RDR2* on mostly ultra settings with a few resource-intensive settings turned down or switched off completely. But some hardware combinations are proving troublesome for *RDR2*, leading to random crashes in certain APIs and, up until a recent hotfix, major hitching issues for some 4-core CPUs. The PC should be the best place to play, not the best place to play eventually, after patches.



COWBOY POETRY

Just as in the singleplayer mode, in *Red Dead Online* I can reasonably make up my own goals and see them through. Problem is, it's fundamentally hamstrung by a frustrating multiplayer levelling system that locks basic tools and cosmetics behind tall XP requirements that can take hours, maybe days, to meet.

But once I waded through the bureaucracy of progression systems and filled out a basic suite of tools, *Red Dead Online* opened up. I've ignored the traditional matchmaking modes like gunfights and horse races opting to make my own fun. It's led some of the most inventive, serene, surreal, and outright dumb adventures I've had in some time.

Chris Livingston and I set out to go fishing, just because. Fish are pocket change if sold to butchers and cooking them restores health and stamina, but, like the best bits of *RDR2*, fishing is just fun for the sake of it. A nice virtual day on the water partaking in the philosopher's sport. Sounds nice.

There wasn't much actual fishing to be had in our fishing trip – we killed a man, discovered Turkey Island, and hitched a ride on a huge shipping boat – but I'll take a memorable moment of stupidity, a cute little pocket of drama and action, over any amount of trout. *RDR2*'s open world is ripe with that kind of playfulness, completely borne from our curiosities and impulses and largely supported by the simulation.

I waltzed into the middle of a gunfight in Blackwater and carried player corpses to the church graveyard. Some posses caught on and attended the 'burials' of their friends. A corpse thanked me for the gesture. Later, my posse and I captured another player and rather than murder them on the spot, we rode to the swamps and threw them in gator infested waters.

We rode to the swamps and threw them in gator infested waters

On a less absurd note, I set myself the ongoing goal of earning enough money from hunting to purchase cold weather gear and a rifle. I'm going to hike into the mountains and find the finest grizzly bear hide there is.

In the meantime, I'm stopping gunfights by running through the streets and calling for a parley. I'm spelling my name with corpses. I'm living the life of a normal cowboy in the best cowboy game there is. I just hope it cleans up soon. ■

PC GAMER VERDICT

RDR2's stark depiction of America's frontier is a monumental work straining against bugs and rigid mission design.

88

THE BEST RDR2 MODS SO FAR

Find them all on NexusMods.com. Read Rockstar's mod policy, disable autosave, and remove mod files before playing online, just in case.

MINI NPCs
Give tiny cowboys big guns for a good laugh.
bit.ly/2XALIcC

JOKER ARTHUR
Because it was inevitable.
bit.ly/2XJms49

PHOTOREALISTIC RESHADE
Make the lighting a bit more lighty.
bit.ly/2OyfQkH

MAJOR VICTORY

UNITY OF COMMAND II is a wargame for both hardcore and new players. ***By Jonathan Bolding***

This confident follow-up is an unambiguous improvement across the board and a triumph of wargame design. From the campaign structure to the simple mechanics and customisable armies, *Unity of Command II* brings renewed vigour to World War II strategy.

One of my high bars for a strategy game's sequel is that I can unreservedly recommend the game over its predecessor. *Unity of Command II* is one of those games, though I was initially wary of all the new mechanics added to an otherwise delightfully simple wargame.

Unity of Command II has the same baselines that made the first *UoC* a success. Every division on the battlefield is made up of sections called steps, each represented by a little dot below the unit's model. Sometimes divisions have 'specialist steps' of attached assets – like a detached tank company temporarily assigned to support an infantry division. Steps are either active, a full circle, or suppressed, an empty one. When a unit attacks or defends its active steps are multiplied by their combat value, totalled and compared to the other unit's total for the odds of various results. If that sounds complicated, it's not, because the game just... shows you the most likely results. Sure, there's a detailed combat resolution table buried in the manual, but you can happily play this (quite complex) wargame without ever looking at it. That feels good.

On the other hand, it doesn't do a great job of tutorialising itself. The basics are simple, but expect some trial-and-error frustration while you figure out how to reassign steps, balance logistics, and upgrade your divisions. More detailed, frequent tooltips would have been nice.

The combat lets you really focus on what an operations-scale game does best. This is a game about orchestrating breakthroughs, exploiting gaps with armour and strategically blocking chokepoints. The terrain of the western front isn't about vast encirclements, it's about pushing over the mountains of central Italy or struggling through the bocage in Normandy. I found great pleasure in capturing railway depots and balancing supply dumps to keep up with my advancing forces. A well-planned tank breakthrough once allowed me to take a third of Italy with little effort by racing up the coast and cutting off the enemy's supply – though the paratroops that held the vital bridges along the way didn't make it. The strategy is very simple to manage but just complex enough that it feels like a challenge.

I found great pleasure in capturing railway depots

NEED TO KNOW

WHAT IS IT?
An approachable operations-scale World War II wargame

EXPECT TO PAY
£23.50

DEVELOPER
2x2 Games, Croteam

PUBLISHER
Croteam

REVIEWED ON
Intel Core i5-3330, GeForce GTX 1070 Ti, 8GB RAM

MULTIPLAYER
Hotseat only

LINK
unityofcommand.net

COMMAND & CONQUER

The first *Unity of Command*'s very basic combat felt like a puzzle sometimes, but the mechanics are refined in *UoCII* so that even the initial strategic situations in a scenario can have wildly different solutions, something the first game lacked. It's much harder – maybe impossible – to solve the best way to do any one of this game's battles.

The centerpiece of play is the War in the West campaign, spanning North Africa in 1943 to the close of the western front in 1945. It's divided into phases of two or three historical operations, like invading Sicily then charging 'up the boot' to Rome. During missions you complete objectives – always with a time limit – to earn 'prestige'.

Prestige is spent on reinforcements and upgrades for your troops, like artillery pieces and tank companies as speciality steps. Prestige is always in demand, though. Between each set of operations is a conference phase, during which you purchase HQ upgrades and one-shot card powers using prestige.

Customisable factors like cards and specialists and upgrades lend a lot of flexibility to scenarios and campaigns. There are even a few points of historical divergence, where doing better than the historical figures can allow you to take alt-history paths like pushing the Italian front to the alps by mid-1944.

I rarely feel the need to replay a wargame of this scope, but I already know I'll be sinking a lot of time into *UoCII* because it's clear that strategy isn't subordinate to simplicity – and that's rare these days. ■

STEP STATISTICS, SOLDIER!

How to read a division's stats

1. Base power, defence, movement, and armour.
2. Next is the actual steps in the division.
3. If a step is hollow, it's suppressed.
4. Experience, then movement and action points.
5. Whether the unit's dug in, fortified, or weakened.
6. Below that, you have equipped specialist steps:
   - Purple are artillery, but suppressed if moved.
   - Blue are anti-tank units, which give an armour bonus.
   - Teal are attached speciality tanks.
   - Orange are Engineers, who negate penalties.
   - Black are Elite Infantry for attack and defence bonuses.
   - Green are Recon, for intel gathering bonuses.

PC GAMER VERDICT

Wargames don't see a lot of innovation, but *Unity of Command II* builds new things out of familiar parts.

91

These beleaguered American paratroopers are hurting for supplies.

Command cards are powerful, but come at the expense of army HQ upgrades.

Troops mass to land on D-Day. The details are mostly up to the player.

Chokepoints in the Apennines stall an Adriatic coast advance.

AGEING GRACEFULLY

AGE OF EMPIRES II: DEFINITIVE EDITION is a fitting remaster of the series' best entry. ***By Fraser Brown***

Yes, the venerable classic is being wheeled out again – not quite new, but definitely improved. It wears its two decades well, but the years are still there hidden beneath polish and new art and myriad tweaks. *Age of Empires II: Definitive Edition* wavers between remaster and remake updating nearly everything from the art to the AI, but reverence for the original means that the changes, though broad and welcome, are somewhat restrained.

This remaster makes it easier to appreciate why the original had the impact it did. Finally, in 2019, *Age of Empires 2* lets you tell your villagers to automatically reseed farms! No more returning from a war to find the fields fallow and my villagers twiddling their thumbs. This might be the most exciting change for me, the most boring man in the world.

Quality of life improvements might not sound like much of a headline attraction, but *Age of Empires 2* needed them just as much as the visual overhaul. Features like queuing up different units and upgrades or being able to select your army without grabbing villagers contribute to a more consistent pace that leaves you with extra time to expand your civilisation and command armies.

ONE MORE TIME

For the most part, at its core it's business as usual. You start with a town centre and some villagers, gather resources, plonk down buildings and expand until you've got a big army and a fortified city. Across the campaigns and skirmishes this routine is repeated, tweaked and sometimes subverted, but while the current curators have updated a lot around it, the moment-to-moment civilisation and army management has been preserved.

Armies are more manageable thanks to formations

Unlike the first *Age of Empires,* armies are more manageable thanks to formations and improved pathfinding. They try to take the most efficient route and, while units can still get stuck when they're blocked by their mates, you can switch formations to give them more room to move.

Melee brawls are brisk and, even with the otherwise helpful zoom feature, it can still be hard to decipher what's going on in the scrum. Units run around trying to get to the nearest enemy, or the one you selected, frequently having to adjust as gaps close. You've either got to micromanage them or leave them to it and just hope that you've sent in the right units to counter your enemy.

NEED TO KNOW

WHAT IS IT?
A remaster of the classic RTS with some new additions

EXPECT TO PAY
£15

DEVELOPER
Forgotten Empires, Tantalus Media

PUBLISHER
Xbox Game Studios

REVIEWED ON
GTX 1080Ti, Intel i7-8086K, 16GB RAM

MULTIPLAYER
Yes

LINK
ageofempires.com/games/aoeii

HORSING AROUND

The three new campaigns, collectively known as the Last Khans, take a crack at spinning historical yarns through the deeds of historical figures. Mission intros and outros do all the exposition, but there are plenty of narrative moments and scripted sequences within the missions themselves. There are multiple paths, plot twists and elaborate set pieces, and they strike a good balance between a bespoke, directed experience and a sandbox. Not every mission is a winner, but even when the execution is a bit off there's usually still an interesting hook or even just an unusual map layout that makes it memorable.

The Bulgarians, Cumans, Lithuanians, and Tatars get unique units, techs, and bonuses, and they all share a penchant for horses. I've become partial to the Bulgarians who start off pretty strong and get access to a unique cavalry unit who becomes an infantry unit when defeated.

Whether you want to duke out against the AI or human opponents, the skirmish modes give you plenty of options. There are ten modes to choose from including the new Empire Wars, which starts you off in the Feudal Age with a small town.

While *Age of Empires 2: Definitive Edition* undoubtedly goes several steps further than previous remasters, it also makes me even more eager for a different take on the classic RTS. You won't find that here. This isn't for people looking for something new; it's for people who are already enamoured with the original game. I still count myself among that number. ■

MEET THE KHANS *Get up to speed on the new civilisations*

TARTARS
A cavalry archer civilisation that gets lots of bonuses for mounted archers and a unique unit that earns you gold.

BULGARIANS
Thanks to free militia upgrades and a half-price miniature castle, the Bulgarians start off pretty strong.

CUMANS
The Cumans get battering rams early. One of their unique techs gives them ten elite versions of their mounted archers.

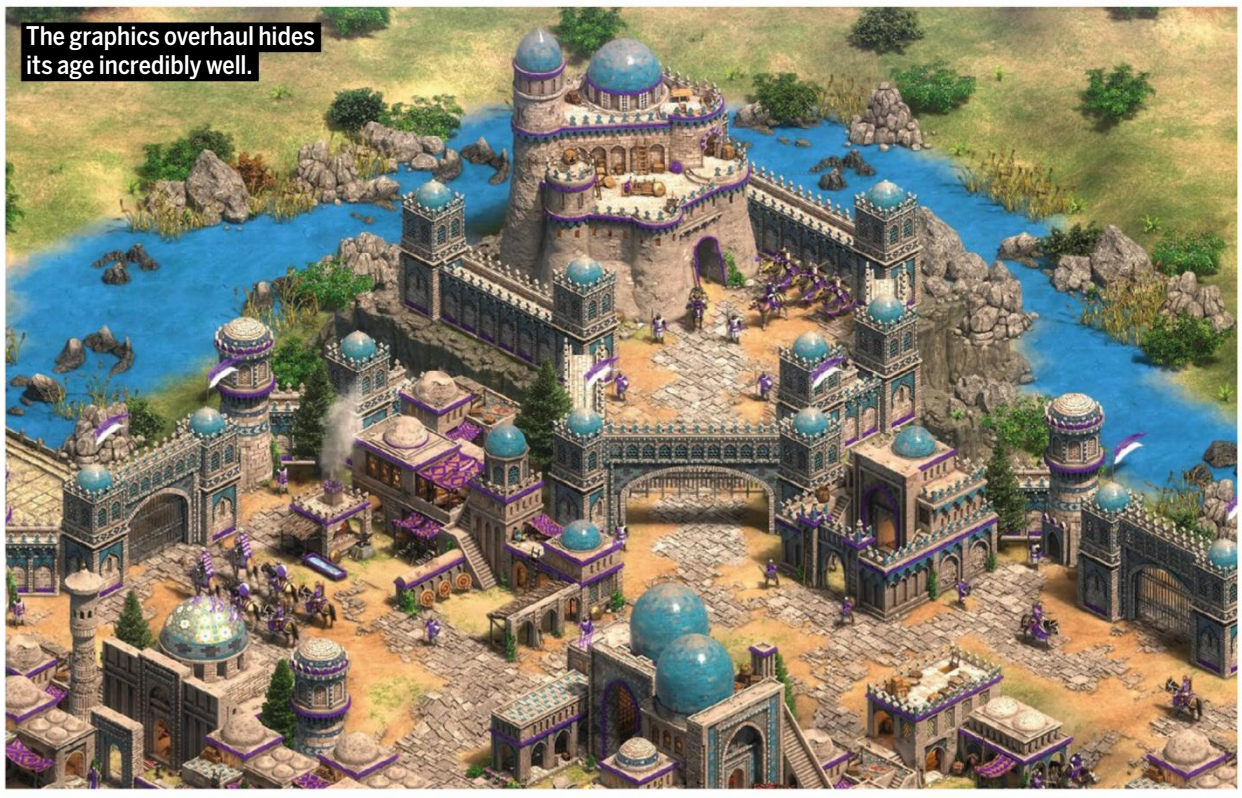
LITHUANIANS
They love relics. For every one they collect, cavalry get an attack bonus. They start off with a food stockpile too.

PC GAMER VERDICT

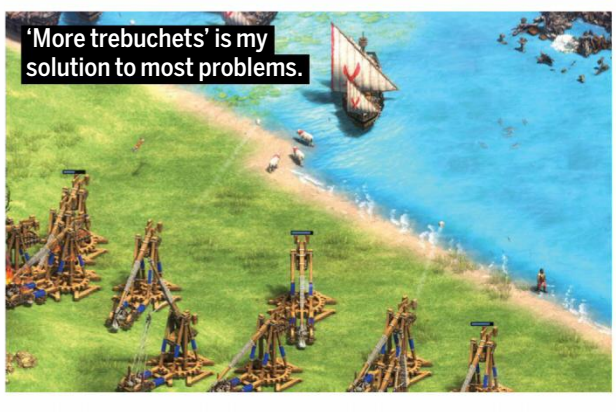
AoE II: Definitive Edition is a polished, wide-ranging update that brings the classic RTS into the modern age.

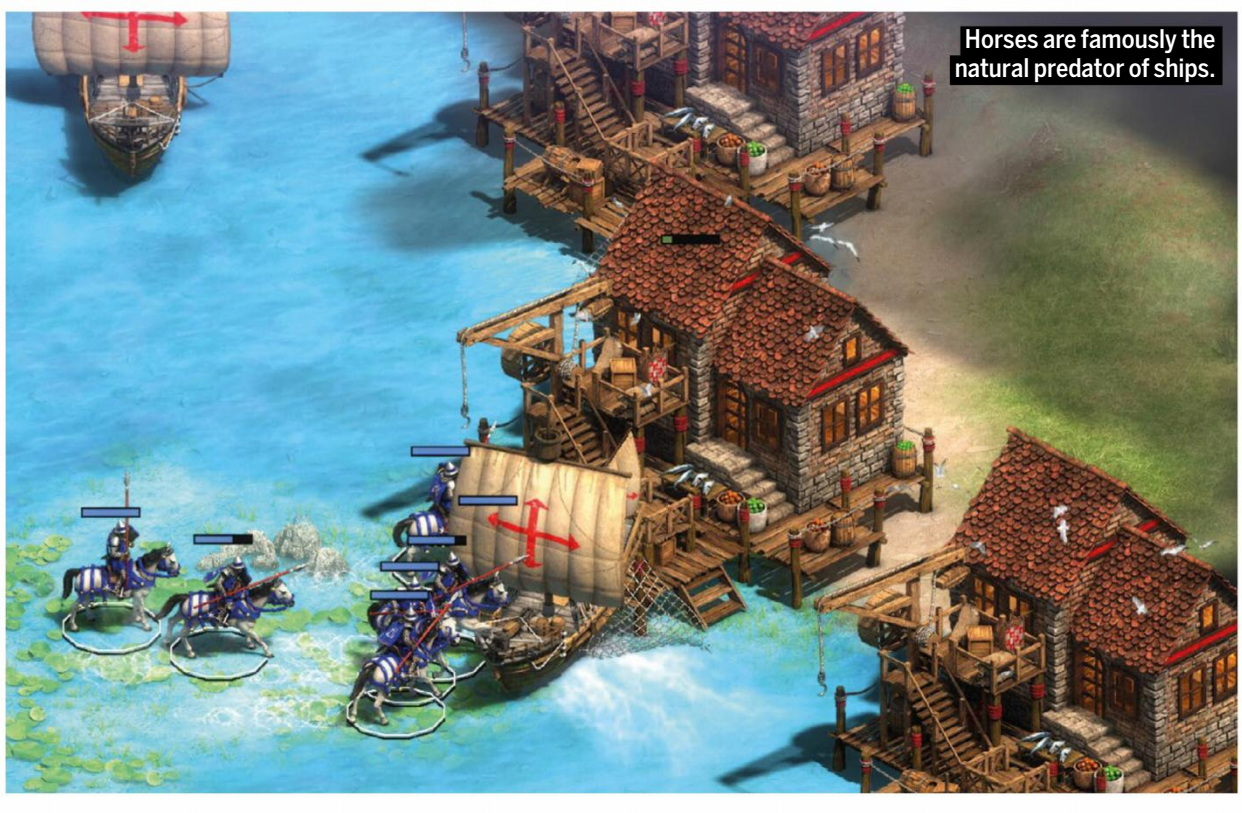
78

A few fires can warm up even the chilliest of fortresses.


The graphics overhaul hides its age incredibly well.

Units still make a meal out of moving through tight spaces.


'More trebuchets' is my solution to most problems.


Horses are famously the natural predator of ships.

REBEL ASSAULT

Decimate legions of poor innocent Stormtroopers in STAR WARS JEDI: FALLEN ORDER. *By Tom Senior*

You are Cal Kestis, a bland-faced scrapper with too-clean hair and an inexplicable love for ponchos. You are also probably the deadliest person in the universe. Though you spend your days cutting crashed Star Destroyers open for parts, within your cloak you hide the true star of *Star Wars Jedi: Fallen Order* – a blue lightsaber that you will use to strike down hundreds of Stormtroopers across the course of the game.

If you concentrate on main story missions, this is about a 20-hour adventure set across a cluster of themed planets. There's a red one, a green one, an ice one, and so on – common videogame fare.

The story is set between the prequel trilogy of films and Episode IV: A New Hope, after the Sith has enacted Order 66 and turned the Republic's clone army against the Jedi. Cal's mission, once he realises he should probably get off the junk planet and follow his destiny, is to seize a 'holochron' data cache that contains a grand list of every Force-sensitive child in the galaxy. Agents of the dark side are after it too, of course, and so begins a breezy, entertaining third-person action adventure with a fantastic lightsaber.

It's one of the best weapons in fiction and Respawn has done a great job of emulating the look and feel of the Jedi's signature weapon. It cracks to life when you press left on the D-pad. You can combo together light strikes by tapping the square/X button, and activate special attacks with the triangle/Y button. You hold left bumper to block incoming blaster fire and most enemy melee attacks. If you time your left bumper press well enough, you can parry enemies and send blaster fire hurtling right back at the trooper shooting you. This is incredibly satisfying, and the lightsaber hums and sparks exactly as it should.

You can parry enemies and send blaster fire hurtling right back

The combat system bears a loose resemblance to *Sekiro*. Enemies have a health bar, but also a posture bar. If you break the posture bar with parries or a flurry of attacks, Cal finishes his foe with a particularly flashy lightsaber strike.

Most Stormtroopers are trivial to deal with, as they should be, and meet their fate with a hilarious collection of barks that ranges from statements of extreme overconfidence to cries of terror. If you rack up Cal's bodycount, he's kind of a monster.

Elite troops offer a bit more challenge. You're being hunted across the galaxy by a Jedi-hunter called The Second Sister. She commands an elite cadre of troopers who will stand against your lightsaber with energy weapons. Skilful use of the lightsaber will still take them down, but you can also use a variety of Force powers to freeze them in place, push them away, or pull them into range of your blade – particularly useful against flying Imperial drones.

Of course there are points where you fight an enemy who also has a lightsaber. These boss fights aren't too taxing, but they look extremely flashy and the music is great. In addition you kill a ton of animals, from space rats to giant space spiders.

Your range of powers expands as the story grants you extra Force abilities, but you can also level up Cal to unlock new attacks, or to modify existing Force powers to, say, freeze a lot of enemies rather than one target. Here the game introduces a hint of Dark Souls. If you die you lose any skill points you have earned, but if you make it back and strike the enemy that killed you, you get them all back in an incredibly satisfying slow motion explosion.

NEED TO KNOW

WHAT IS IT?
A third person action game set in the Star Wars universe

EXPECT TO PAY
£55

DEVELOPER
Respawn Entertainment

PUBLISHER
EA

REVIEWED ON
GTX 970, 8GB RAM, Intel Core i5-4670K

MULTIPLAYER
No

LINK
ea.com/games/starwars/jedi-fallen-order

BLUE HARVEST

Fallen Order's influences are famous for being intense and difficult, but the game isn't a huge challenge and nor does it particularly want to be. These systems are nowhere near as punishing as they are in their source games, but they do successfully convey the power fantasy of being an elite Jedi fighter in a world of blaster fire and blustering storm troopers. I put the difficulty up for a while, and while the game gets harder, it isn't a satisfying and cathartic experience like *Sekiro* and *Dark Souls* can be.

It serves the fantasy, which if you're a Star Wars fan is likely enough reason to play the game. The Jedi experience is somewhat

USE THE FORCE *Skill up with your lightsaber*

1. FORCE BOOST
Grow your Force meter, replenish it by attacking enemies.

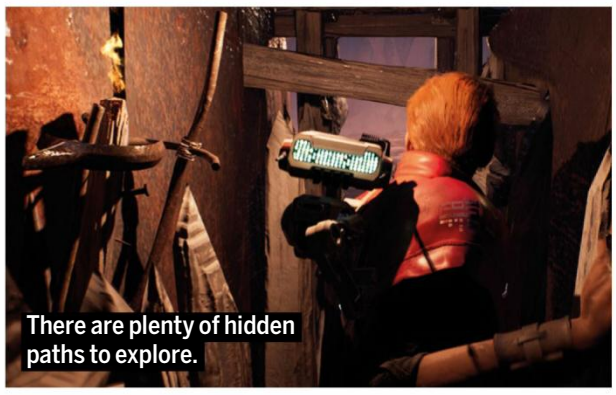
2. OVERHEAD SLASH
A slow, brutal attack that can shatter an enemy's guard.

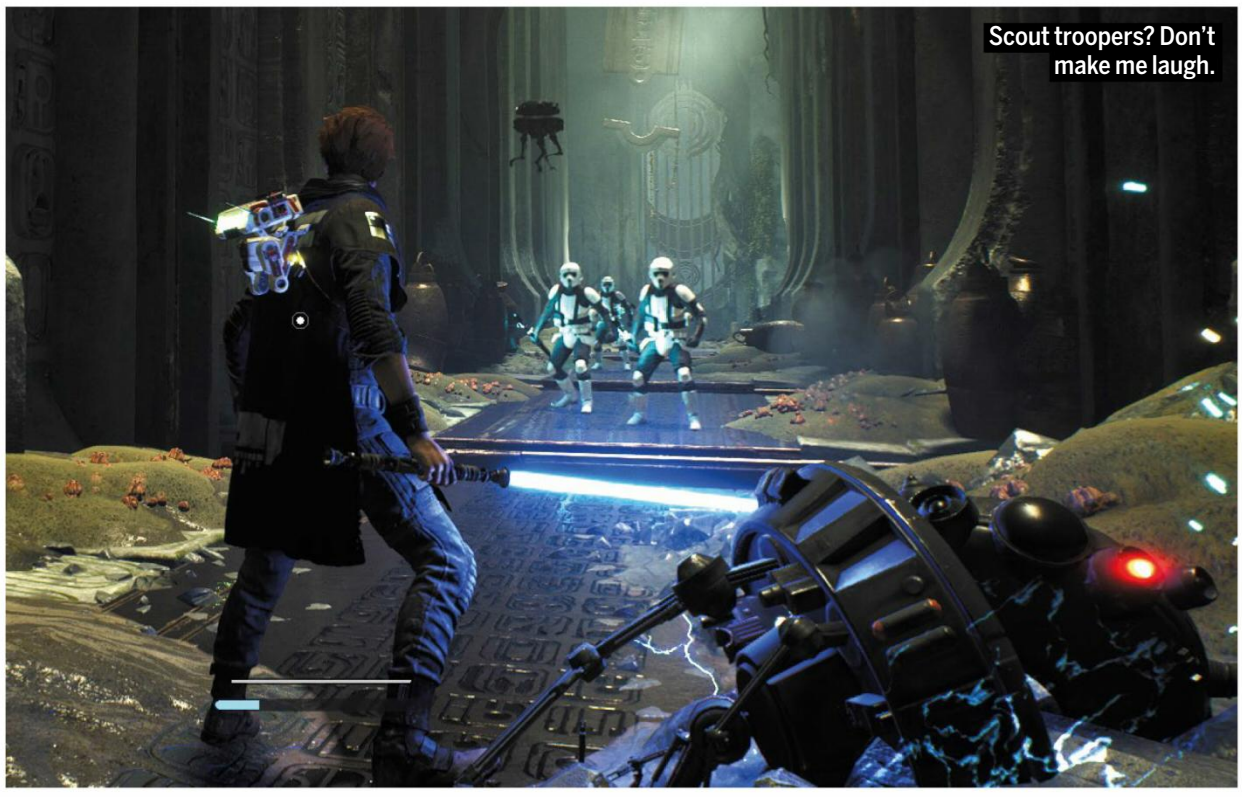
3. KICK COUNTER
Dodge perfectly and you can kick foes off balance for a nice instant kill.

4. DASH ATTACK
Close the distance on blaster enemies with a quick dash attack.

Another enemy successfully bisected.

Cal heads off on a cracking adventure.

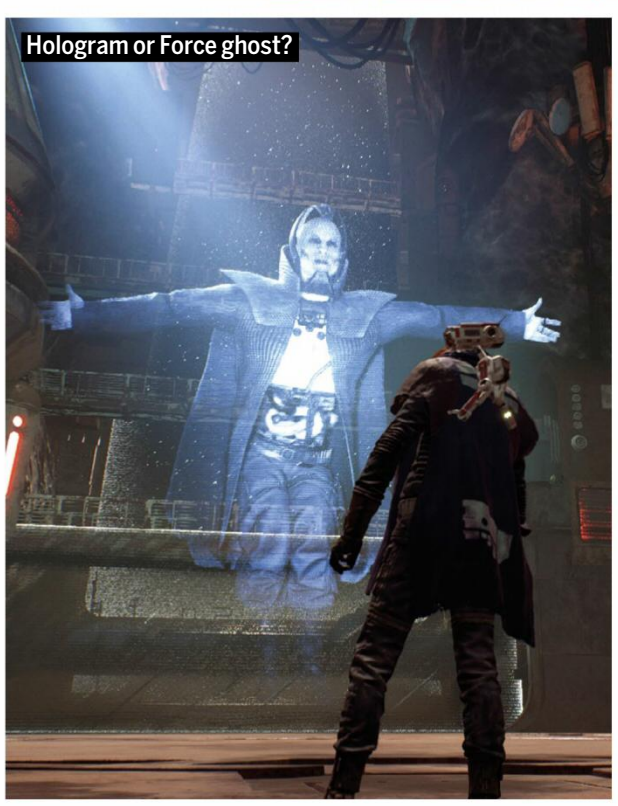

There are plenty of hidden paths to explore.


Scout troopers? Don't make me laugh.

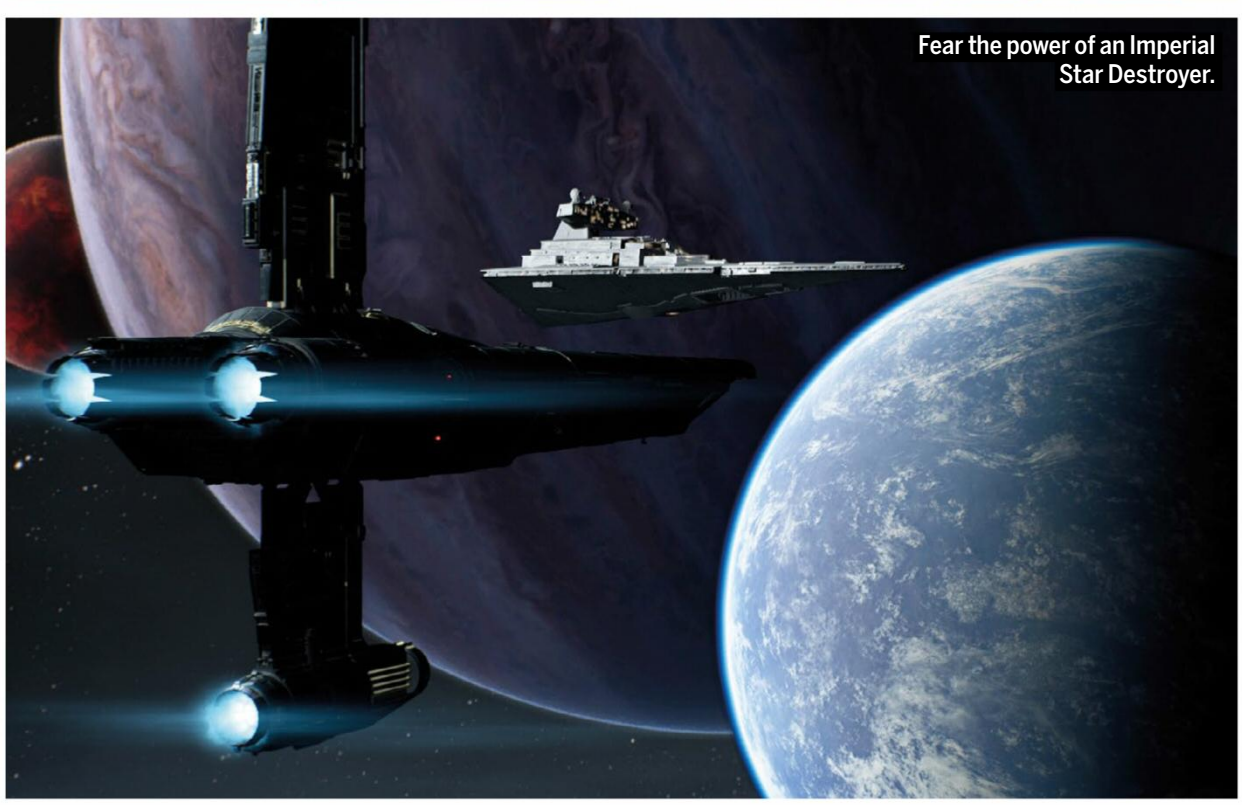
Just hanging around, avoiding fights.

You can almost hear the sounds of the lightsabers clashing.

BD-1 and you will soon become fast friends.



Hologram or Force ghost?



Fear the power of an Imperial Star Destroyer.

» undermined by some of the contrived puzzles and paths of exploration, though not enough to completely break the experience for me.

Each planet is essentially a massive tangled dungeon with a good mix of gorgeous exteriors and atmospheric Imperial bases. As you learn more powers new routes and shortcuts open up on each level.

Challenging Metroidvanias often test your memory by giving you a power and leaving you to find the unexplored route yourself. Here, again, *Jedi: Fallen Order* smooths over the experience for you. On your map, passable doors are marked in green, impassable doors are marked in red, and unexplored areas are marked in yellow. This is another good decision – it's hard to feel like a cool Jedi if you keep getting completely lost.

But the levels can be quite contrived at points. I started to feel a bit silly as I Force-pushed giant gold balls into switches in an ancient Jedi temple. Cal mostly wall-runs, jumps, and swims his way through the maps, but sometimes – too often – you'll find yourself scooting down a massive bendy slide, which Cal rides like a surfer. There's a nice variety to traversal otherwise, however, and it's particularly fun to Force-pull vines into your hands as you sail across yawning gaps like a Jedi Spider-Man.

It's a very old fashioned third-person action game in many respects. The game segues smoothly between a jumping section, a fight, a wall-run, a puzzle, another fight.

Fallen Order mixes up its interactions just enough to keep up a reassuring pace. It's also a self-contained single player game, which is a novelty in 2019. There are no loot boxes or microtransactions, or games-as-a-service promotions. Customisation options are simply rewards for exploring.

As you rummage around in boxes hidden on each planet, you can unlock new poncho colours, new spaceship paintjobs, and – brilliantly for fans of the Star Wars series – bits of lightsaber that you can use to customise your weapon.

Though it's pretty derivative, it's good entertainment. The environments in particular look really fantastic – on Kashyyyk you swing around a jungle and climb a colossal world tree. Dathomir is a blood-red planet infested with horrible space monsters. Planets also teem with adorable wildlife that won't attack you – the game's equivalents of porgs from The Last Jedi.

Fallen Order authentically replicates the dark reflective interiors of brutalist Imperial facilities, but there are moments when the game opens up to show you the fallen might of a grounded Star Destroyer, or a view that stretches towards distant alien horizons that you will never explore. It's not a fully open-world game, but it still manages to show you epic spectacle.

He's kind of a baby Wall-E who sits on your back and warbles

The story, meanwhile, is decent enough to work, and you meet some interesting characters along the way. There's a rebel who cut herself off from the Force for mysterious reasons, and a gruff and expressive captain with four arms – all the better for flying spaceships.

There's also a little robot called BD-1. He's kind of a baby Wall-E who sits on your back and warbles. Tap up on the D-pad and he shoots a healing stim out of his head. BD-1 acts as Cal's foil for most of the adventure, and in spite of his bland appearance, I ended up liking Cal for his ongoing chats with his little robot pal. You can put level-up points into BD-1's abilities too. Some help you traverse, while others let you attack enemies in new ways. It feels incredibly good to hack those evil-looking Imperial probe bots, for example.

A PERIOD OF CIVIL WAR

The story follows the typical beats you'd expect from a tale following the fortunes of an aspiring Jedi, but the game also manages to sneak in interesting parts of Star Wars' rich extended universe. On the moody planet, Dathomir, the Force exists, but is used in very different ways.

Another treat for Star Wars fans, then, but I would recommend *Fallen Order* to anyone who enjoys moreish third-person action games like *Darksiders*. The formula is similar and familiar, but it's a great way to deliver a fun space adventure with some silly puzzles and very satisfying lightsaber combat.

Unfortunately the game has some performance problems on PC. Some of my colleagues and I experienced quite serious stuttering, particularly when the game seemed to be loading in new areas. The problem was serious enough to break up the flow of an otherwise well-paced game, and mid-combat stutters got me killed in combat a few times.

Though the framerate was otherwise smooth for me, others have been experiencing dips at points. Hopefully patches will come in future, but for now it's an unfortunate blemish on a decent game.

I still enjoyed myself, though. It's 'a good game that's definitely worth playing', which happens to be exactly the description of the 70s bracket in our review policy.

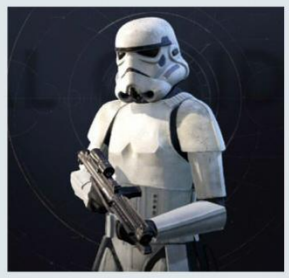
It's a fun, straightforward holiday adventure. Clip a lightsaber to your belt and jump in. Oh and remember, if you see a Stormtrooper stood conveniently close to a cliff edge, Force-push is your friend. ■

PC GAMER VERDICT

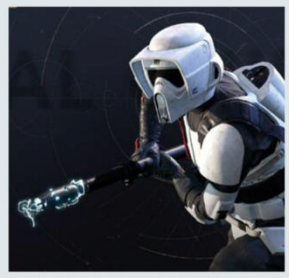
Technical issues mar an otherwise slick adventure. But *Fallen Order* is a must for Star Wars fans.

75

IMPERIAL MIGHT *Forces you'll face in* Fallen Order

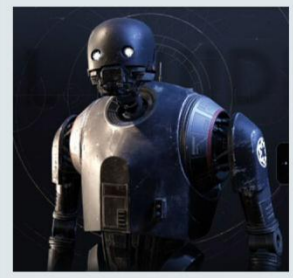


STORMTROOPER
Defenceless against a lightsaber, they're basically doomed.



SCOUT TROOPER
The electro riot baton can deflect a lightsaber, but not for long.

HEAVY STORMTROOPER
They raise a shield when they fire their gun.



SECURITY DROID
Avoid getting choke slammed and you'll find these guys easy to kill.

FLIPPING OUT

William Chyr's serene gravity-switching puzzler **MANIFOLD GARDEN** asks you to confront infinity. *By Rachel Watts*

There have been quite a few games that play with the fun of gravity. *Antichamber*'s mind-bending puzzles, *Dandara*'s explosive wall-jumping and the upcoming *Boundary's* zero-G shooting – all grant the player the ability to defy physics. William Chyr's first-person physics-based puzzler, *Manifold Garden*, also lets you mess with the force of gravity, but in this game your playground is the never-ending, mind-bending realms of *infinity*.

Waltz up to any visible surface in *Manifold Garden's* geometric world and you'll automatically flip gravity so that the wall becomes the floor. Using this ability, players are tasked with solving a number of gravity-manipulation puzzles and working out how to progress through *Manifold*'s many eternal spaces.

You're forever being confronted with colossal towers, cathedral-like edifices, massive windows, never-ending flights of stairs – it's bonkers. There are giant cubic trees that grow square blocks that you can pluck from their branches like fruit. As you walk through geometric runes your footsteps echo through the tower's many floors and doorways.

Manifold Garden's puzzles have a straightforward core logic – mostly they just require you to move cubes onto buttons. Sounds simple enough, but the catch is each block can only be moved when they share the player's gravitational orientation, and the matching button usually lies past a series of baffling obstacles.

These puzzles take place on immense floating structures, impressive spaces that require a new approach to in-game navigation. Flipping from one surface to the next and running across expansive parts of the architecture feels like trying to solve a Rubix Cube, examining all the different sides and possible moves to get a clear picture. Taking inspiration from Escher's Relativity print, one moment you'll be running up some stairs, and slowly they'll shift so that you're actually going down them.

It's a joy to try and work out the game's impossible geometry

Manifold's world is cleverly shaped so that it wraps around itself in a never-ending loop, meaning that if you look out into the distance you can see the same structure that you're standing on mirrored all around you. Step off the edge on one of these structures and you'll fall directly into the one underneath you – actually the same one. It actually ends up being a useful way of getting around the maze of walkways.

Flipping and free-falling from one surface to the next completely twisted my perspective of the world, but Chyr has created some simple but effective signals so that you don't lose your way. Each direction of gravity is assigned a colour, meaning that all surfaces and objects that align to that direction are colour coded – a clever piece of visual shorthand.

NEED TO KNOW

WHAT IS IT?
A first-person physics puzzler with impossible architecture

EXPECT TO PAY
£20

DEVELOPER
William Chyr Studio

PUBLISHER
In-house

REVIEWED ON
AMD A4-6300@3.7GHz, 6GB RAM, GeForce GT 610

MULTIPLAYER
No

LINK
manifold.garden

DOWNSIDE UP

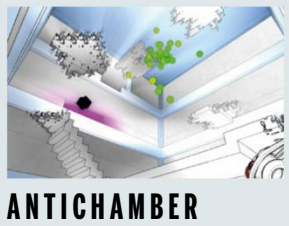
As you traverse *Manifold Garden*'s structures and solve its puzzles, a narrative emerges, but given its wordless minimalism it's very much open to interpretation. There are clues that you're working to rebuild something – restoring ancient runes, recovering pieces of a lost civilisation, and planting seeds to grow trees – but it's hard to say exactly what's actually going on.

For me though, *Manifold*'s ambiguous story adds to the mysticism of the game, and complements its otherworldly vibe. The ambient music and soft chimes make you feel like you're entering a calm sacred space – but it also has moments of explosive force, where the architecture comes crashing around you in a million tiny pieces, only to then get re-built into another new world.

It's a joy to try and work out *Manifold Garden*'s impossible geometry and dizzying infinite world. It's an intricate and impressive spectacle – it took William Chyr seven years of development to make, and it shows. When I finish playing it the first time I immediately start again, just to revisit some of its fascinating spaces. It's strange that a puzzler so grounded in physics can emit a serene, almost divine, energy – it's like a unity of two worlds. With *Manifold Garden*, Chyr has joined two opposing forces to create an ethereal, fascinating experience. ■

WHICH WAY IS UP? *More dizzying puzzle games inspired by Escher*

THE BRIDGE
An illustrated physics game that lets you bend both time and space.



ANTICHAMBER
A mind-twisting game where perspective changes reality.

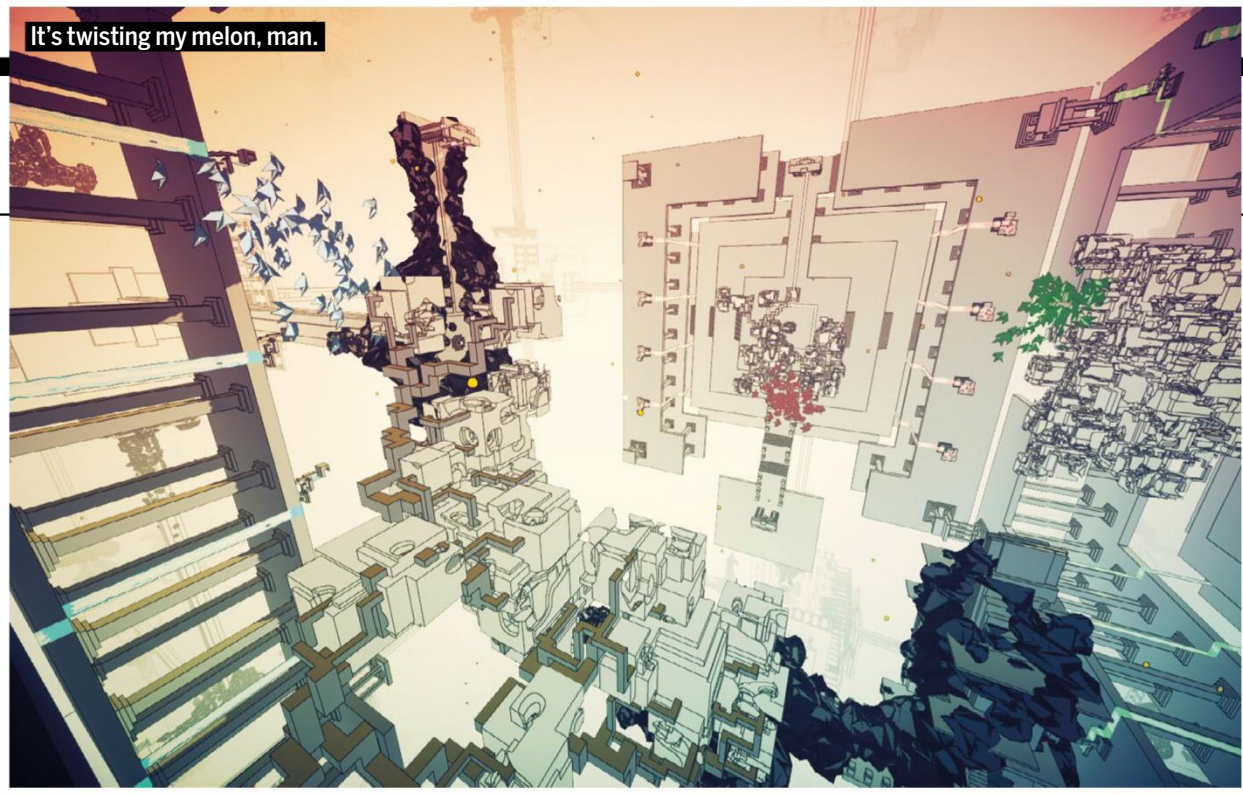
FRAGMENTS OF EUCLID
A puzzler that looks like Escher's sketchbook.

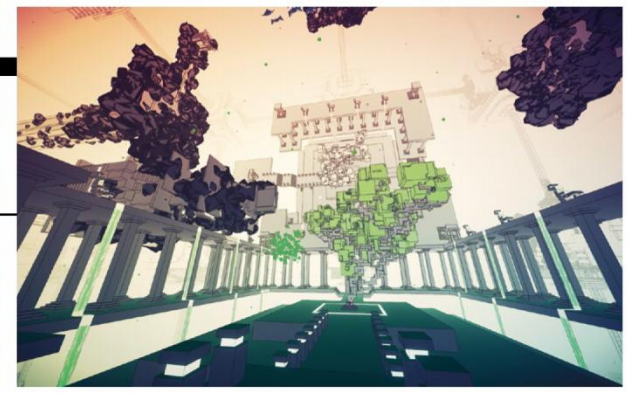
TRI: OF FRIENDSHIP AND MADNESS
A first-person platformer across impossible spaces.

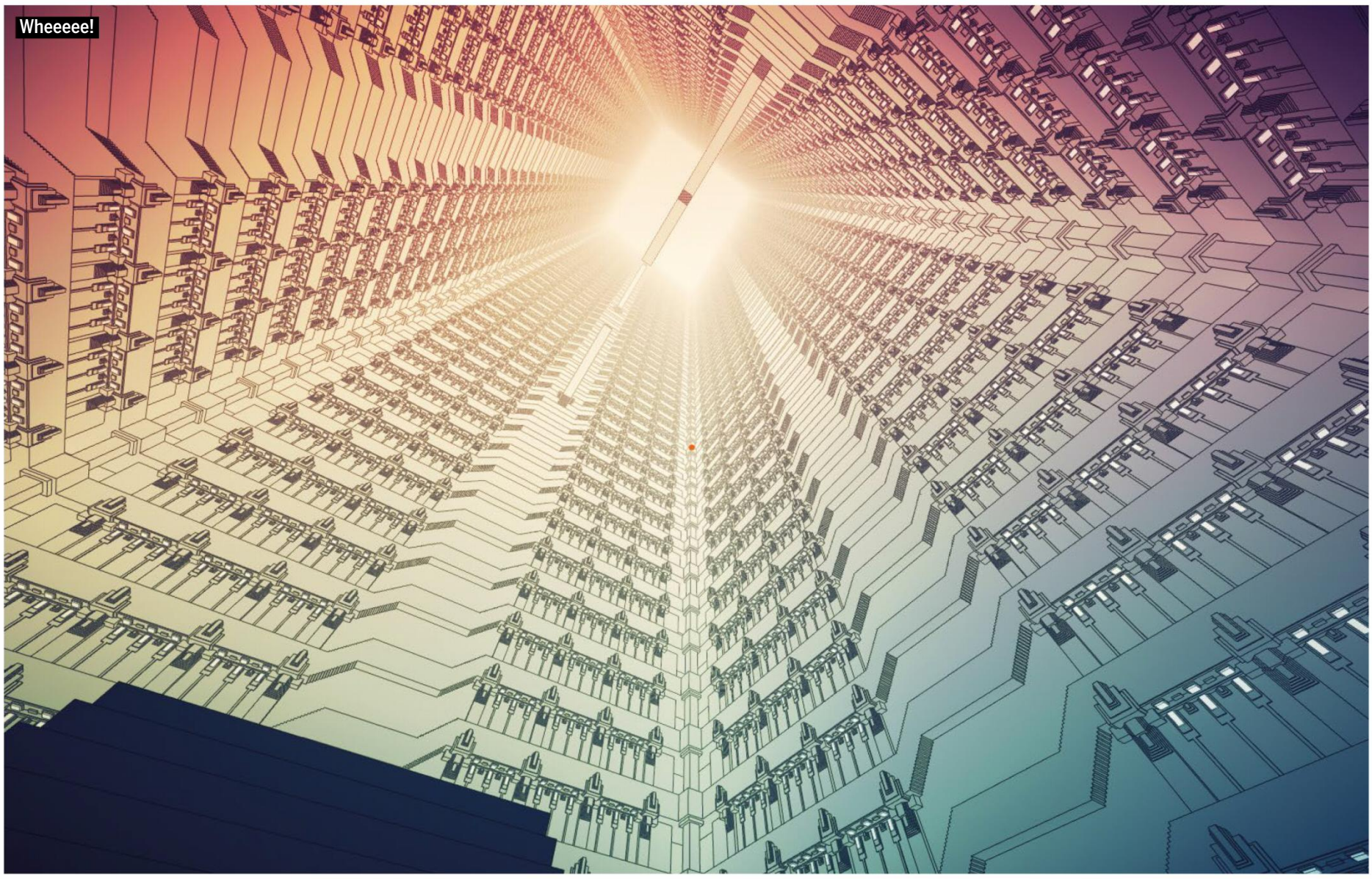
PC GAMER VERDICT

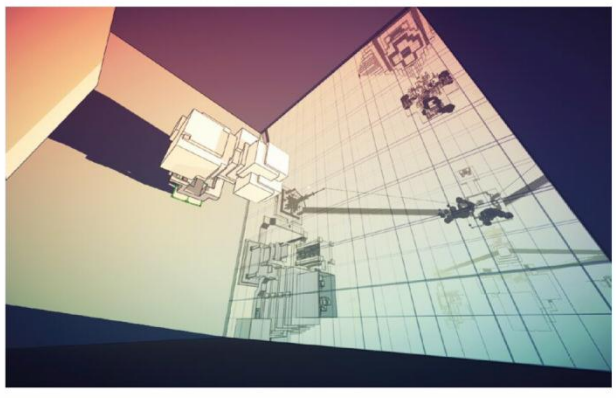
A serene gravity-flipping puzzle game with impossible, infinite structures to wrap your head around.

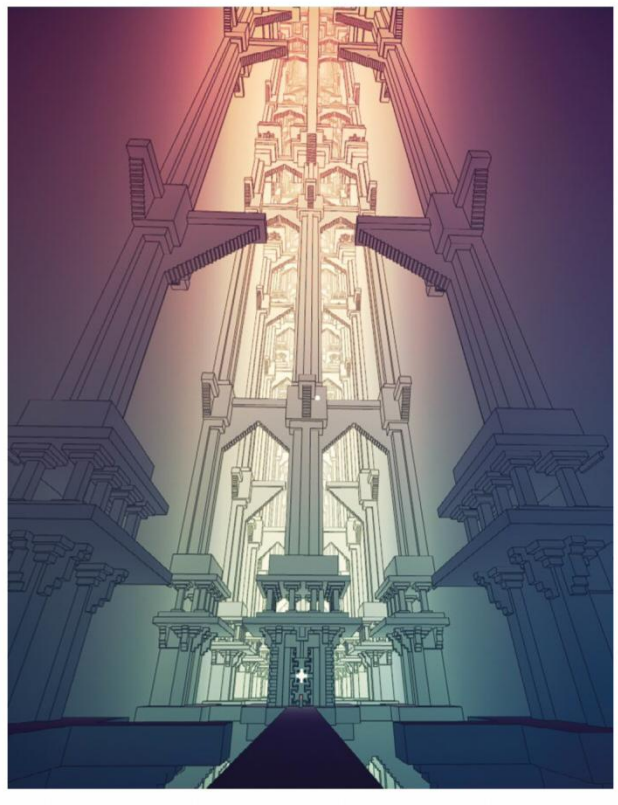
85


It's twisting my melon, man.

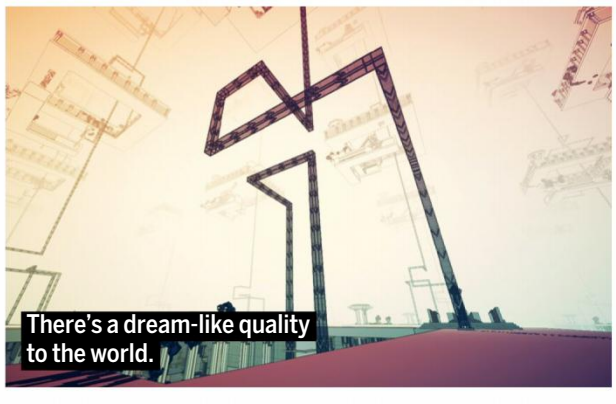


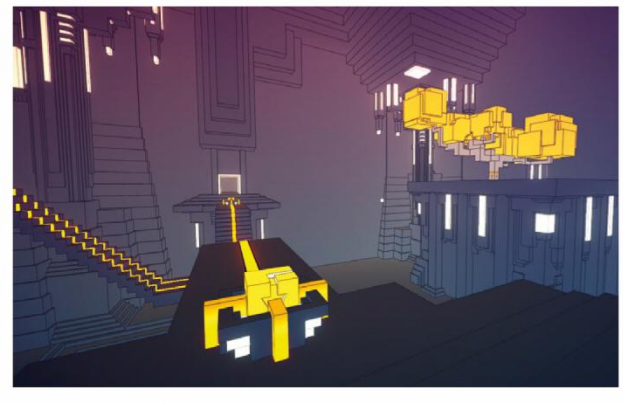

Wheeeee!





Well this looks easy enough, right?


There's a dream-like quality to the world.



SUNNY SPELL

NEED FOR SPEED HEAT is the best entry in years, despite its obnoxious racers. ***By Rick Lane***

This inevitable sequel is a decent game, a rich and vibrant open-world racer with a day/night mechanic and thrilling police chases. Imagine the sun-drenched fun of *Burnout: Paradise* mixed with the duelling of *Need For Speed: Rivals*, and you're two thirds of the way to understanding what *Need For Speed: Heat* is about. All you need to add is the most obnoxious cast of characters ever squeezed out of the sphincter of creation.

I swear by Vin Diesel's right foot, the fighting roster of *Mortal Kombat XI* is less inherently punch-able than *Need for Speed: Heat*'s pathologically irritating racing drivers. They don't so much talk smack as talk grievous bodily harm, all macho posturing and narcissistic self-absorption. At one point early in the game, Ana, a female racer who is supposedly your best friend, says to you, "You don't understand. When I'm in my car, I got power". They're so vacuously awful that the game's writers have to make the police full-blown cartoon villains so there's no risk you might accidentally start rooting for them.

Given Palm City is basically one giant Miami nightclub, complete with eye-searing neon lights and a seemingly omnipresent thumping bass, perhaps I shouldn't be surprised that its population is so grotesquely in-your-face all the time. Nevertheless, after the positive, upbeat vibes of *Forza Horizon*, I find *Need for Speed*'s hyperactive, aggressive tone to be tiresome.

I find *Need for Speed*'s hyperactive, aggressive tone to be tiresome

Fortunately, beyond its theme *Need for Speed: Heat* impresses. You assume the role of a rookie street racer looking to make his name on the roads of Palm City. Selecting your character from around a dozen pre-set avatars, you explore a familiarly structured open-world.

Heat's city has two distinct personalities. By day, all the races you compete in are formal events. Winning a race earns you 'bank' – *Heat*'s infuriating slang for cash. This you spend on buying new cars and new components, tailoring each vehicle to suit specific types of events. But *Heat* truly comes to life at night. Instead of earning you bank, night races increase your 'rep' (please make it stop). This acts as your experience level, unlocking new races and making new cars and vehicle parts available for purchase.

NEED TO KNOW

WHAT IS IT?
Entertaining, if obnoxious, open-world racer

EXPECT TO PAY
£50

DEVELOPER
Ghost Games

PUBLISHER
EA

REVIEWED ON
Windows 10, AMD Ryzen 5 3600, Nvidia GTX 2080 Super, 32 GB RAM

MULTIPLAYER
Yes

LINK
bit.ly/20rsLVL

NIGHT RACERS

Structurally, the night races are the same as the daytime ones. But there is one big difference: the police. At night the streets are prowled by supercharged police cruisers, and they'll start chasing you regardless of whether you're in a race or just travelling through the world, attempting to bring your car to a halt either by boxing you in or simply wrecking it. If you're in a race and cross the finish line with the police tailing you, the pursuit will continue until you can shake them off.

Need for Speed: Heat has a good sense of balance and progression. When you've had an intense bout of night racing, the daytime events come as a welcome relief, and the way you earn different things in each half of the game is a neat idea. There are also several smaller details I like, such as the way you can zip through a garage to instantly repair your car, even during a race, and how each event clearly displays the recommended car level, so you know exactly how likely you are to fare.

The PC port of *Heat* is not the best. While the game runs like silk at 4k on my machine, the ability to tinker with graphics options is limited and there's some weird UI idiosyncrasies like not being able to move the map around with your mouse. Like the rest of the game it works well enough, it's just annoying in places. Nonetheless, if you can stomach *Heat*'s reprehensible virtual humans, you'll be treated to Ghost Games' best work for a while. ■

HOT MESSES *Every playable character looks a prick*

1. Always first in-line for the latest iPhone.

2. "You can't come in with those shoes."

3. Runs a lot. Never shuts up about it.

4. Carries a skateboard everywhere.

5. Likes pineapple on their pizza.

6. Chronic attention-seeker.

7. Calls himself a 'pick-up artist' like a twonk.

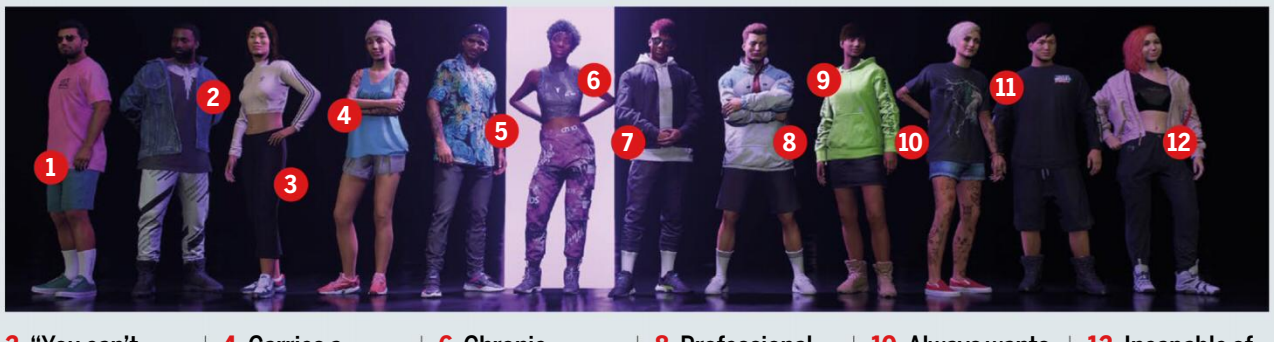
8. Professional man-spreader, in jorts.

9. Closest *Heat* has to a normal human being.

10. Always wants to tell you about their dreams.

11. Attends conventions, smells.

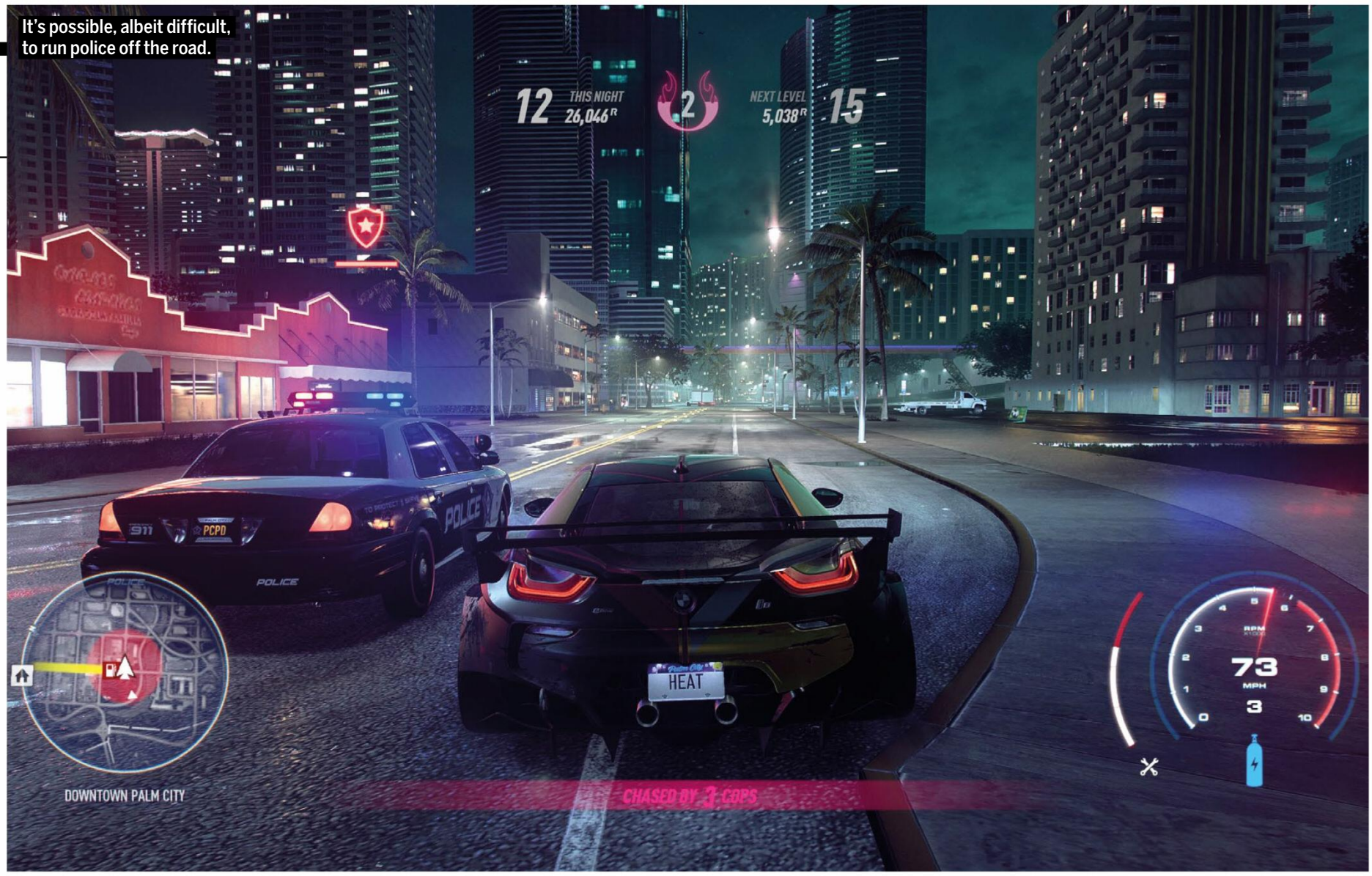
12. Incapable of wearing clothes properly.



PC GAMER VERDICT

Thrilling night races make *Heat* the best *Need for Speed* in years, even if I want to batter every one of its racers.

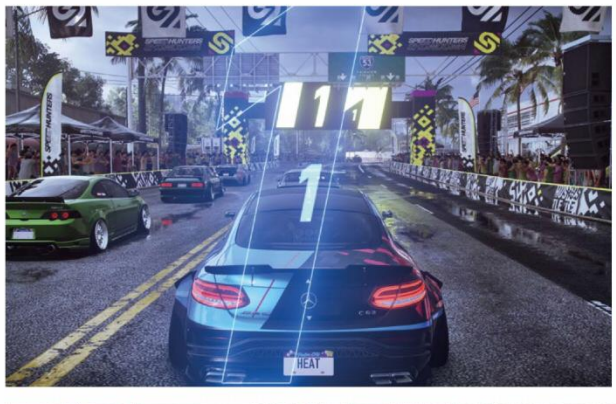
75

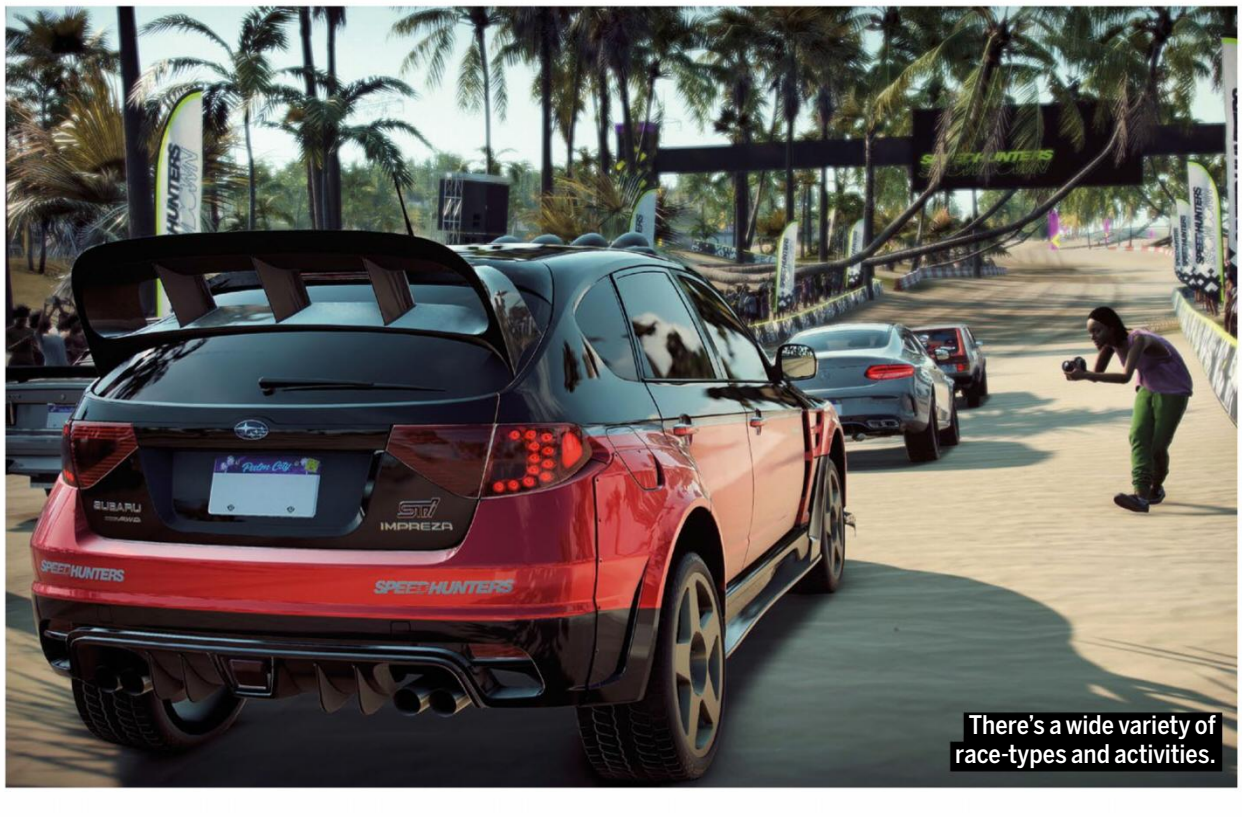


It's possible, albeit difficult, to run police off the road.

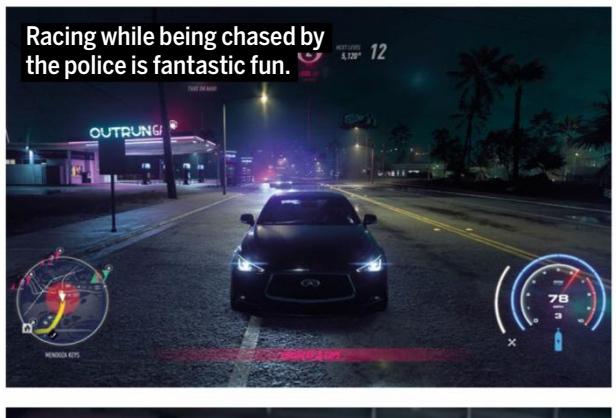
I wouldn't be surprised if there was a head in that helmet.

Logan Paul simulator.





There's a wide variety of race-types and activities.



Racing while being chased by the police is fantastic fun.

ANIMAL BOSSING

PLANET ZOO's beautiful creatures are a real handful to manage in Frontier Developments' new sim. *By Chris Livingston*

The difference between a roller coaster and a ring-tailed lemur is that when one has a problem it's a mild irritation and when the other has a problem it's a cause of unbridled panic and guilt. There are stressful components to every management simulation game, but where *Planet Coaster*'s mechanical breakdowns make me worry briefly about profits, *Planet Zoo*'s biological breakdowns make me feel like a neglectful, abusive monster who should be dragged off to jail and never allowed near another living thing ever again.

Planet Zoo has several official modes: Career, Challenge, Sandbox, and Franchise, but its two actual modes are 'Things Seem Fine' and 'Oh God What Have I Done?!'. My elephants, giraffes, orangutans, panda bears, and dozens of other furry friends can starve to death or die of dehydration if I'm not careful. They can contract diseases or get injured by fighting one another. They can feel fear and stress and the effects of isolation. They can overheat or get too cold. They can kill each other if you put the wrong animals together in the same habitat. At one point I saw protestors carrying picket signs in my park. It was because my giant burrowing cockroach's glass box was slightly too humid for its liking. I couldn't even keep an ugly bug that eats dead leaves happy and I instantly felt terrible about it.

Planet Zoo isn't just a management sim, it's a survival game. In fact forget that I just compared it to *Planet Coaster*. At its most stressful *Planet Zoo* is more like *Frostpunk* or *Prison Architect*. None of the lives you're in charge of actually want to be there, and making a mistake puts those lives in danger. This is mostly a good thing – stressful experiences can be a weird sort of fun, and heart-wrenching guilt should be a feature in more games. But some of the stress of *Planet Zoo* is due to parts of the game not working that well.

Planet Zoo isn't just a management sim, it's a survival game

GIBBON ARCHITECT

Take my current zoo, which I've named Zoo Bisou. It's still small with only a few habitats – two bears, two wolves, two nile monitors (giant lizards), one Galapagos tortoise, plus enclosed glass exhibits featuring two tarantulas and two snakes. I've been getting notifications for a while now that my bear's habitat is a disease risk because it's not clean, but repeatedly sending one of my zookeepers over to vacuum up enormous bear turds hasn't made the notification go away.

After several frustrating minutes I finally make a guess that the issue might be the small river running through the back of the bear's habitat – even though the water looks fine ('Water View' mode doesn't show any alarming red danger zones). I install a water purifier and the disease risk notification vanishes, but *Planet Zoo* didn't make it clear that the water was the problem and it should have.

And in the time it took to figure that out, I now have nine giant lizards instead of two, because one gave birth to a huge litter – so I have an overcrowding problem in that habitat. I also now have roughly 20 tarantulas (not only did my original pair give birth but their offspring have matured and reproduced incestuously), three more snakes, a new wolf cub, a new bear cub, and some protestors picketing because my turtle is sad that it doesn't have any toys. Plus one of my zookeepers is complaining that he can't find his way to the staff room, which I discover is because he's fallen through the map and is wandering around underground. Taking the time to solve one problem gave literally everything else in the zoo time to develop their own issues.

This combination of legit problems and game flaws isn't a complete disaster. The spiders giving birth means I can sell a bunch of them for cash, useful since I'm not currently operating at a profit. I can make my lizards' habitat a bit larger and start feeding them birth control pills so they don't produce another unexpected litter. I release my surplus snakes into the wild, which earns me conservation credits that can be spent on rarer animals, and I put a vet to work researching the tortoise to find out what kind of toys »

NEED TO KNOW

WHAT IS IT?
A management sim about running a series of zoos

EXPECT TO PAY
£35

DEVELOPER
Frontier Developments

PUBLISHER
Frontier Developments

REVIEWED ON
Intel i7-9700K 3.6GHz, NVIDIA GeForce RTX 2080 8GB

MULTIPLAYER
No, though you can share creations

LINK
planetzoogame.com

BUG OFF *The creepiest zoo animals, rated from gross to super gross*

GROSS — SUPER GROSS

TITAN BEETLE
As bugs go beetles aren't that bad, but you still wouldn't want one on your leg.

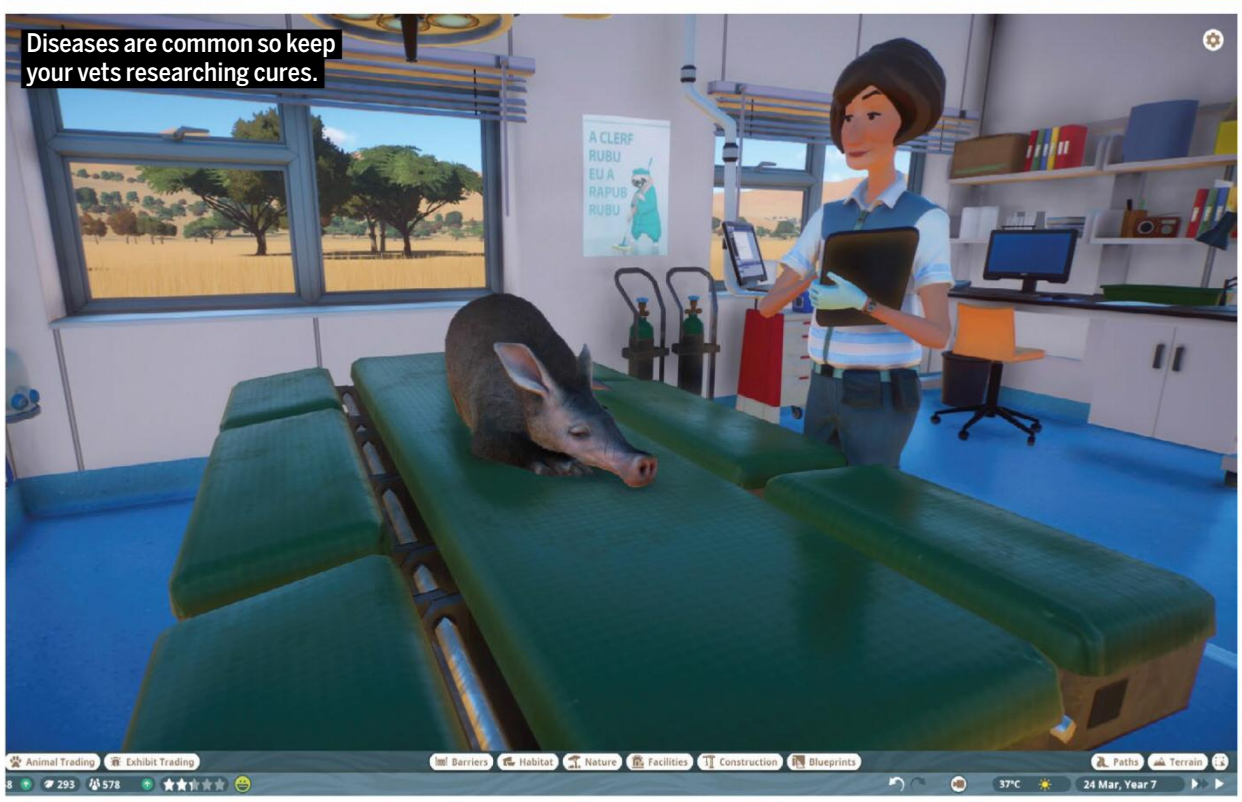
GOLIATH BIRDEATER
Something about a giant spider eating a bird... it's unsettling.

GIANT DESERT HAIRY SCORPION
Giant scorpions are gross enough without being *hairy*.

GIANT TIGER LAND SNAIL
A snail is just a slug that owns a home, and this is a big slimy one.

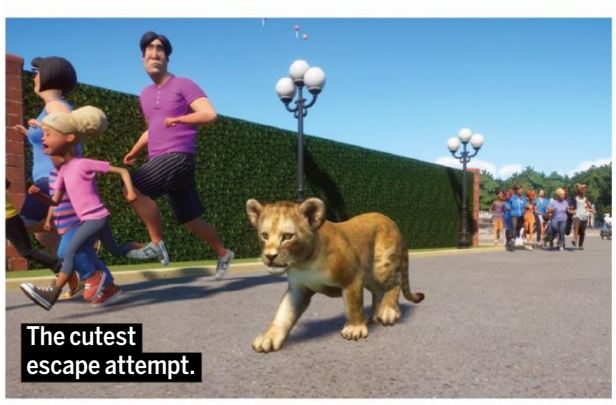
GIANT COCKROACH
Unlike most insects these don't lay eggs. They give live birth. That's worse.

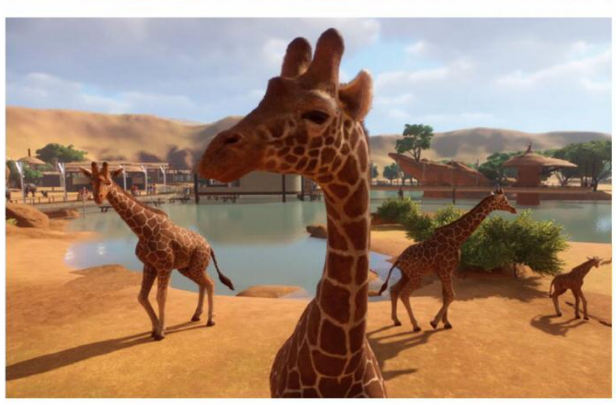
It's not *Planet Coaster*, but there are rides to build.

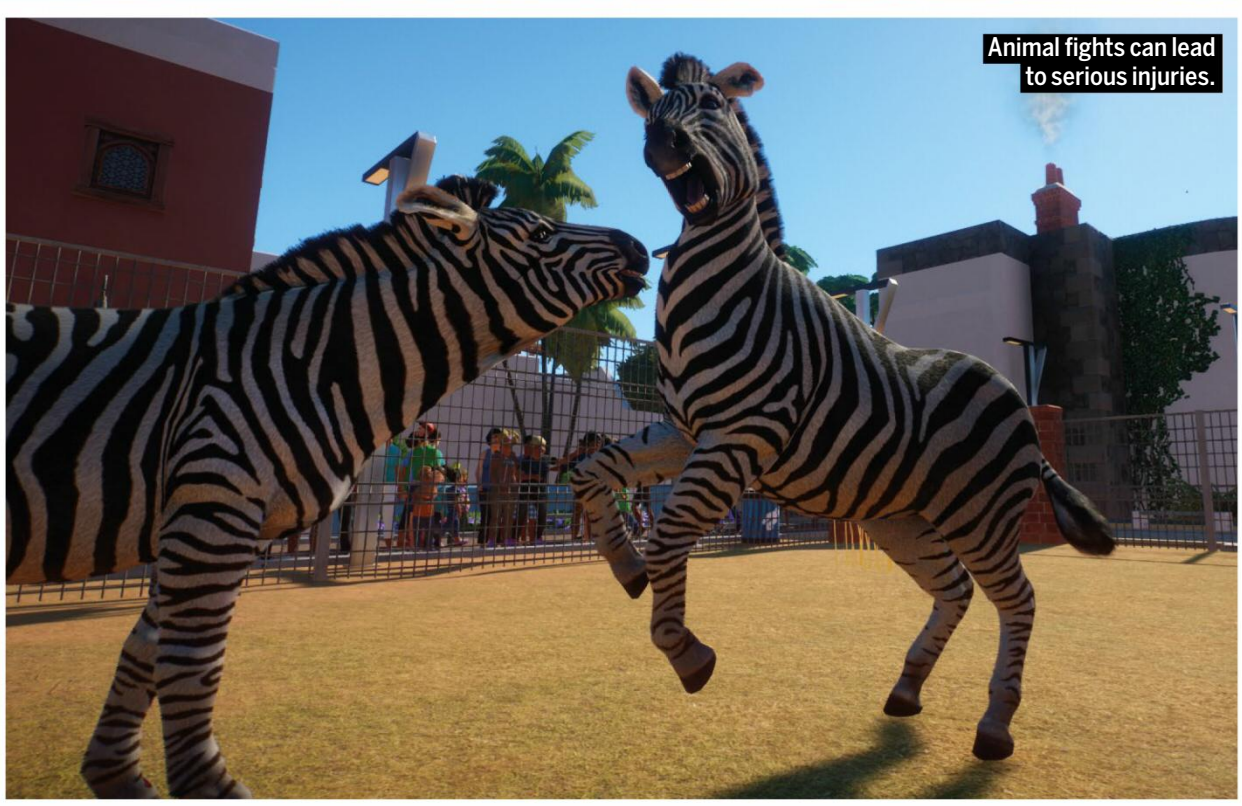


Diseases are common so keep your vets researching cures.

Babies are cute, but overcrowding can become a problem.


The cutest escape attempt.

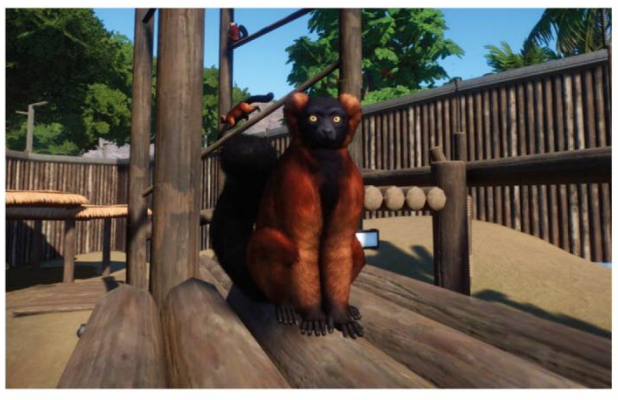


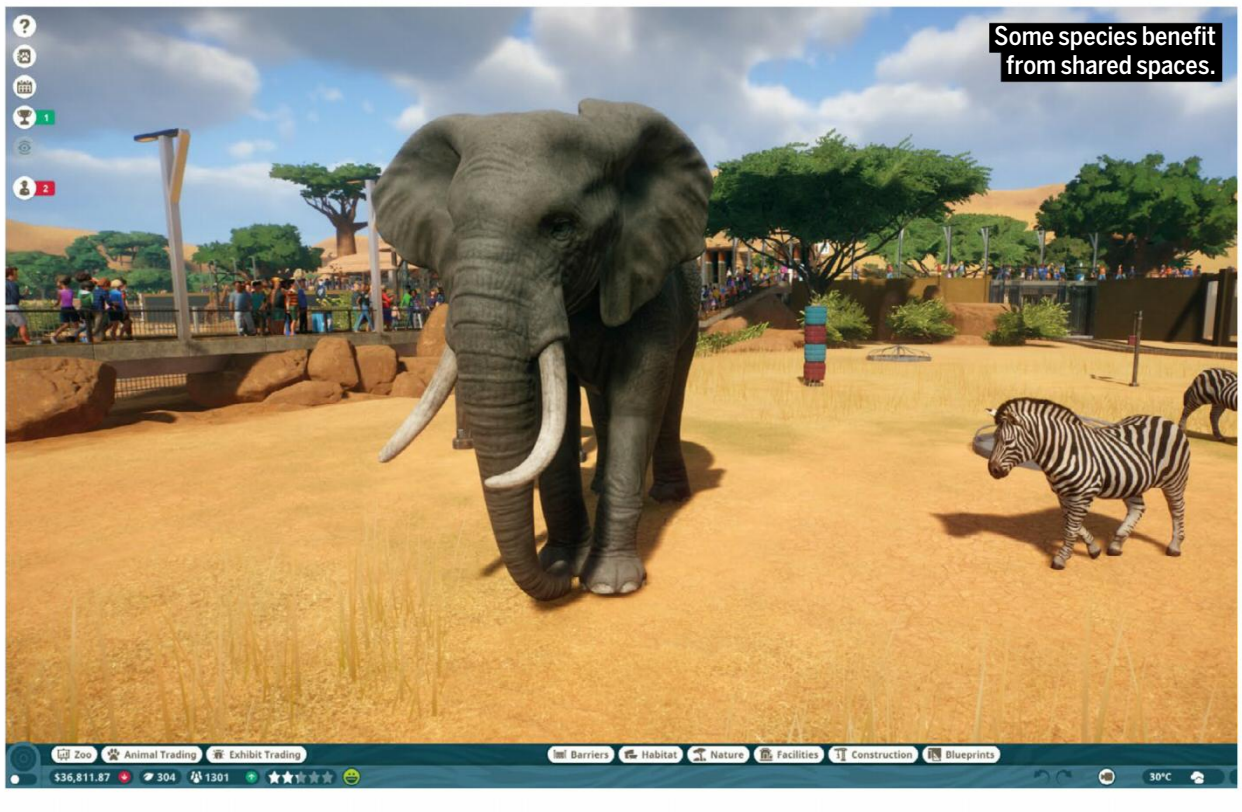

Animal fights can lead to serious injuries.

Feed animals near viewing areas to keep guests interested.

Habitats crumble quickly – keep some mechanics handy.

Guests love big, dumb hats.

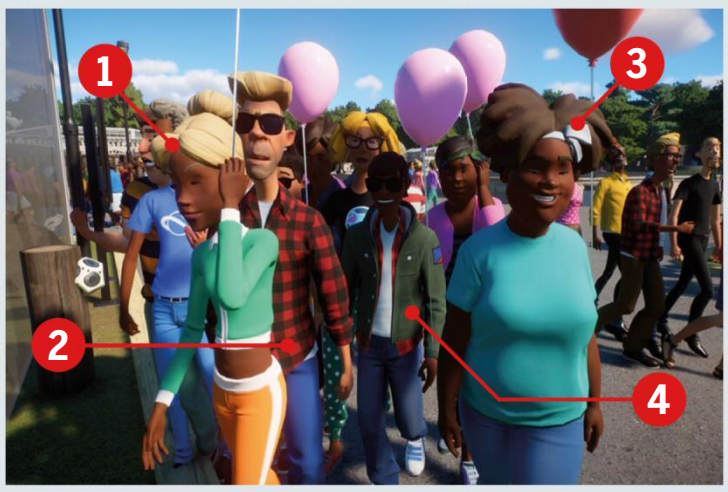




Some species benefit from shared spaces.

Predators will hunt prey, so keep them separated!

MIND READER *What are your guests thinking?*



1 Approves of humidity level in poison frog exhibit.

2 Annoyed to have seen a facility building.

3 Vaguely dissatisfied with bear's food selection.

4 Balloon satisfaction: high

» it likes – something I wish I had to option to do before I adopted the tortoise. (Unfortunately, research can only be undertaken when you've actually got the animal in the park already, which feels pretty irresponsible.) My underground zookeeper, meanwhile, has quit in frustration, so I drag him to the zoo's exit (he can't find it himself, naturally) and hire another.

ANIMAL KINGDOM

With the exception of Sandbox mode where you have a bottomless wallet and the ability to turn off things like animal sickness, injury, and death, *Planet Zoo* is an extremely busy and occasionally exhausting sim. Everything needs constant attention all the time – not only keeping your animals healthy but your staff happy, managing your budget and zoo's reputation, and dealing with day-to-day concerns like preventing guests from vandalising park benches (by hiring a security guard and installing cameras) and making sure habitat walls don't get so dilapidated they crumble and allow a tiger to terrorise the park (the guests won't get mauled, but they do leave the zoo in a hurry).

This is also the reason the sign I'm building at the entrance of Zoo Bisou currently only consists of a 'Z'. I just haven't had time to finish it. There are always incestuous spiders and unhappy tortoises to sort out.

At times all this stress and guilt and micromanagement makes me feel like I should just play in Sandbox mode and I've tried. But, honestly, it's just a bit dull in there without all the worries. In *Planet Coaster* there's a real enjoyment to be had from building a nice park and just sitting back to watch the guests ride the rides, but *Planet Zoo* doesn't give me the same feeling. I enjoy watching my animals, but I don't enjoy watching my guests watching my animals.

Seeing visitors screaming on a Hammer Swing or a Hellion Ring or custom roller coaster is way more fun than watching them briefly stop walking to stare through a glass wall at a bored bear or a sleeping red panda. As lovely as *Planet Zoo*'s animals are they just don't pack the exciting punch of a custom coaster.

Animals just don't pack the exciting punch of a custom coaster

But the animals are really beautiful. Their sounds and animations are wonderfully done – apart from a few glitches when they're trying to climb things or move between different environmental features, at which point a leg might stick out at an awkward angle or they stutter-step around. They seem real enough that it feels genuinely good when you see you've made them as happy as imprisoned animals can be.

And seeing babies appear, even if they're spider babies all scuttling around, again, incestuously – even if they're far more spider babies than you were expecting – feels good too, because it means you've made your creatures comfortable enough that they're willing to make more of themselves. The circle of life, ahh.

ZOO D'ÉTAT

The number of options you can fiddle with in *Planet Zoo* is impressive. You can place prebuilt structures, but you can also build them yourself out of individual parts in the same comprehensive but occasionally finicky fashion as in *Planet Coaster*.

Personally I suck at building custom exhibits, but seeing what creative players have done with *Planet Coaster* makes me excited to see what they'll create and upload with *Planet Zoo*'s extensive tools. Management options are pretty deep and you can assign your workers to specific shops or zones or individual habitats, which I've found useful when certain areas were getting continually messy or dilapidated.

You can even train your employees to be better at their jobs and dictate exactly what each employee's responsibilities are (one person's entire job could be just vacuuming up enormous bear turds, if you wanted).

The layers of micromanagement extend all the way down to elements like which colours of balloons you sell in a particular vendor stall and how much to charge for each individual colour, and *Planet Zoo* will even show you the profit margin for each. I don't typically want to dive that deeply into the menus, but I have found it useful when I needed to wring out some extra profits during a budget crisis, so I'm glad all that detail is there. (Also, you can pop the guests' balloons by clicking on them, but I haven't seen anyone go back to buy a replacement.)

A few more tutorials would have been nice to completely understand all of the features available – while the lengthy career mode walks you through managing, fixing and building several different parks in different parts of the world there's a lot of obscure functions and options it never even mentions, so be prepared to dig through the help menu to figure a few things out.

Hopefully post-launch patches will arrive to fix some of the issues I've had with unclear notifications, subterranean zookeepers and a few other glitches. I'm happy to endure the stress and guilt over the lovely creatures of *Planet Zoo*, but I definitely don't need more of it than I've already got. ■

PC GAMER VERDICT

Planet Zoo **turns out to be another strong, yet stressful, management sim from Frontier Developments.**

75

WHAT CLUE, PUSSYCAT?

Feline suspicious in BLACKSAD: UNDER THE SKIN. *By Luke Kemp*

This should have been a brilliant game. In some ways, it is – in bursts. How could it not be? You play as a cat called John who looks like Batman wearing Columbo's coat; a cat with his own detective agency, who stars in a noir thriller set in 1950s New York that dutifully hits the notes you'd expect. Everyone in the city in fact, is an anthropomorphised animal, true to the acclaimed French comic book series the game is based on.

The result is that *Blacksad: Under The Skin* is essentially a nine-hour fever dream. This fact (and it is a fact) is key to almost every compliment and criticism that can be hurled at the game. The story opens with a rhino angry that you've got photos of him cheating on his wife with a fox, and only gets stranger from there.

It's worth mentioning, too, that the animals haven't just been given human shapes and clothing. Many of them are also oddly sexualised. I've interviewed an unnervingly buff Rottweiler lying in a hospital bed, desperately tried to ignore the cleavage of a buxom cheetah secretary despite the game's best efforts, and had to process the sight of a sexy cat in a short tennis skirt. I feel like I have, as L.V. once sang, been spending most my life living in a furry's paradise.

Desperately claw away at the surreal surface, and you'll eventually find an adventure game that combines a Telltale-style dialogue system with something akin to the Mind Palace in the *Sherlock* games.

Although you'll have to do lots of searching for documents and other clues, there's no inventory. Instead you're told when you've gathered enough info to make a new deduction. You then adopt a thoughtful pose and have a ponder about which two (or more) facts or theories to combine to reach a new conclusion. It's rarely challenging, but that helps keep things going.

It's possible to die by making a bad decision, but the game generously allows you to reload almost immediately to rectify your mistake. You'll occasionally be called upon to use your cat senses to pick up on small details, something that is so straightforward as to be arguably superfluous. *Blacksad* is, generally, a smooth experience. When I get stuck it's because I've missed a vital but poorly placed item or – on one occasion memorable for all the wrong reasons – because of an awkward and unexplained QTE.

I laughed out loud at the sight of a cat driving a forklift

CLAW AND ORDER

Things start off so well. The unfaithful rhino charges into your office, there's a bit of action and some interesting choices to make. The client that drives the story then makes an appearance, the daughter of a leopard who apparently died by suicide in the boxing gym that he ran. Needless to say things aren't that simple, but the experience begins to drag just as you start to pick up on suspicious details. Initially there's a lot of trudging around the same few locations and talking to the same few people. The story picks up again afterwards, but this stop-start pace continues throughout.

The two obvious options with this game were to either play everything for laughs or double down on the noir aspect and make a bravely gritty animal crime thriller. Pendulo Studios appears to have chosen the latter, but it doesn't quite work. I get a glimpse of what could have been when I first meet tennis star Helen Moore, whose withering sarcasm deflects my attempts to probe for information. The norm however is a story that would be much less interesting if it starred humans instead of animals, and regular doses of painfully exposition-tastic dialogue.

While the animal stars obscure some of the game's flaws they often leads to unintentional hilarity too, which can weaken the experience. It's hard not to laugh at the sight of a cat driving a forklift, even if that cat is you, and the line "Do you know what it's like to kill a friend for the sake of the mission?" doesn't have the emotional impact the writers think it does when spoken by a horse.

Somewhat unwisely the script now and again dips its toes into the murky waters of racial issues. Trying to process an issue as fraught as racism through a fantastical lens is difficult for even the most gifted writers. Here, at best, it falls flat – but thankfully doesn't play a significant part in the story.

Blacksad's enjoyable (intentionally and unintentionally), and I must confess to being devastated at not reacting quickly enough to save the life of a character at the very end of the game. Still it's not the game it could – and should – have been. ■

NEED TO KNOW

WHAT IS IT?
Game noir with a detective cat, an unhinged fox, and an untrustworthy walrus

EXPECT TO PAY
£35

DEVELOPER
Pendulo Studios, Ys Interactive

PUBLISHER
Microids

REVIEWED ON
GeForce GTX 1650, AMD Ryzen 5 3550H, 8 GB RAM

MULTIPLAYER
None

LINK
microids.com/game-blacksad-under-the-skin

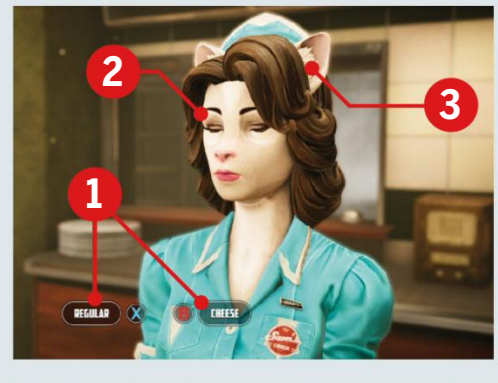
CHOICES, CHOICES

The pressure of making the right call

1 Regular or cheese? Don't burger this up.

2 Don't get distracted by her obvious disdain for the script.

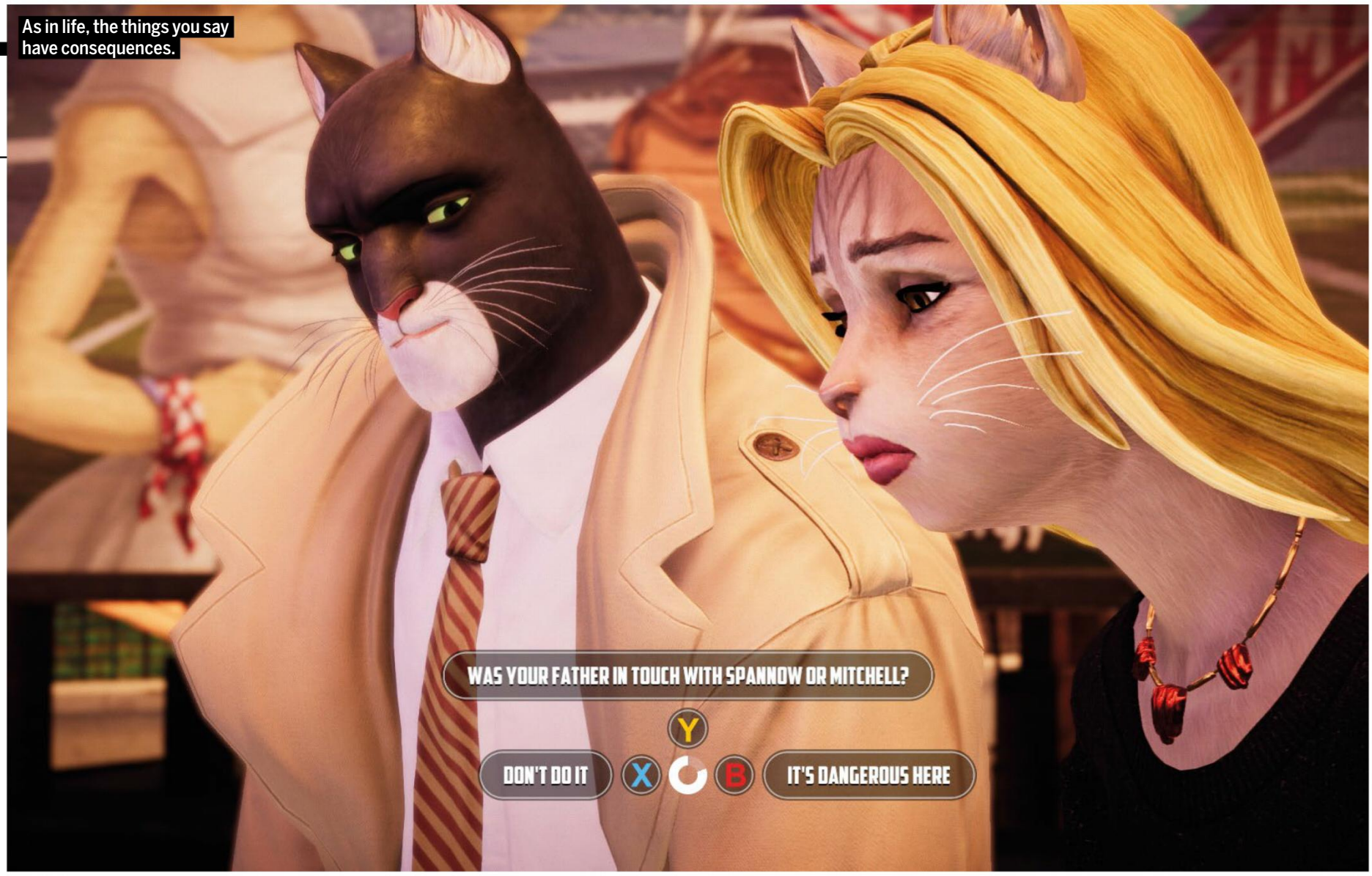
3 She'll hear you very well, so choose wisely.



PC GAMER VERDICT

Totally unaware of its absurdity, *Blacksad: Under The Skin* fails at much of what it attempts.

68

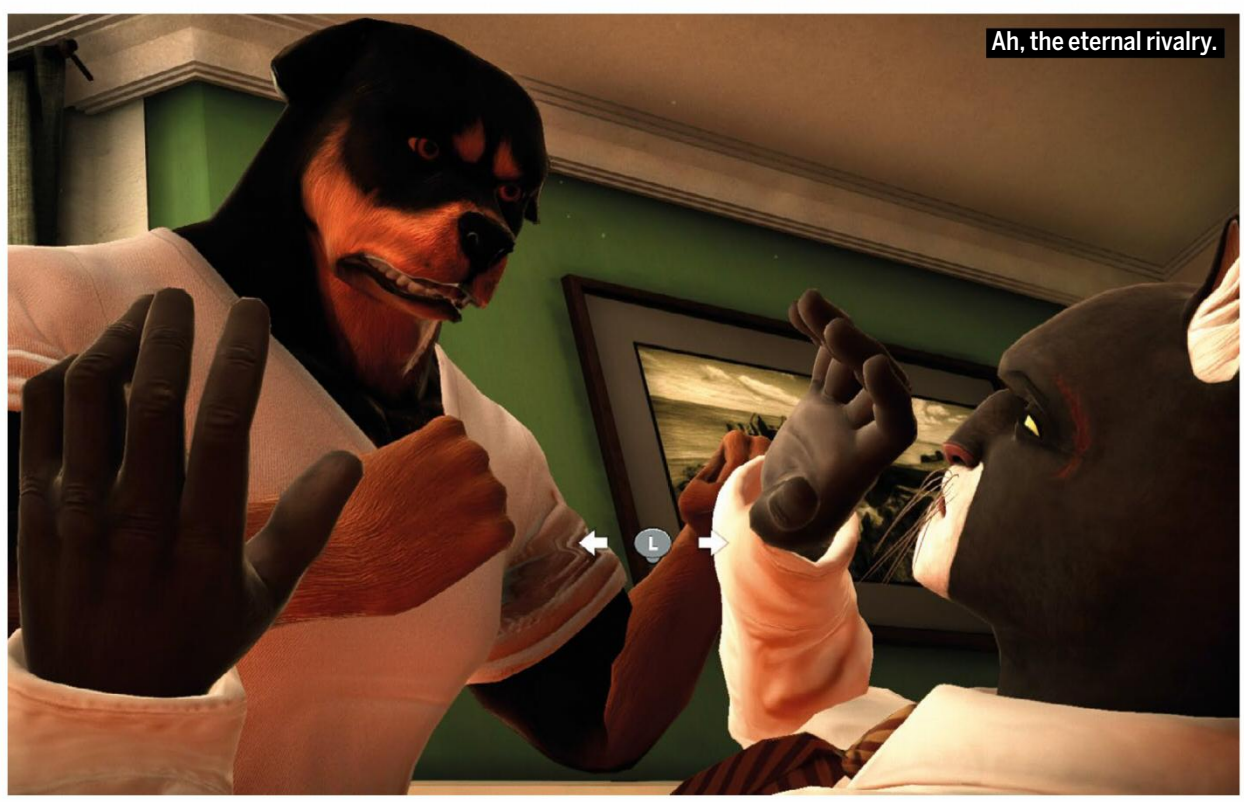


As in life, the things you say have consequences.

John gets a lot of exercise.

"Next up on National Geographic..."

Where there's smoke, there's a cigarette.



Ah, the eternal rivalry.

I'M LOVREN IT

FOOTBALL MANAGER 2020 focuses its efforts on long-term play, with winning results. ***By Fraser Gilbert***

I've been playing the same game of *Football Manager 2012* for seven years now. I won everything with English league side Walsall – UEFA Champions League titles, Premier League titles, you name it – and then proceeded to adopt a similar managerial approach at every club thereafter. For the first time in the series' history I feel like I can't do that with *Football Manager 2020*. Instead, I'm being forced to think more strategically about how to achieve lasting success.

The result of this is a new feature called Club Vision, which vastly expands your interaction with the board from season to season. From the minute you join a new team, you're hurled into a meeting to discuss the specific objectives you need to focus on, from achieving a certain league position, to playing a particular style of football.

These 'Club Culture' objectives are tailored to the team you're managing and align pretty closely with real-world expectations. It's entirely plausible that I could be fired by Wolves for failing to sign enough high-profile players, for example, even when delivering reasonable results on the pitch. I'm now being forced to consider how I approach the job on a case-by-case basis, as well as analyse whether certain teams actually mesh with my style.

It's a highly effective system for replicating the turbulent career of a manager, where even successful bosses can find themselves making a wrong move. You can, however, attempt to avoid any potentially untenable situations by negotiating your five-year plan – a year-by-year layout of how the board expects you to perform, helping to generate a clear view of your long-term expectations.

The match engine itself proves visually reminiscent of last year

The downside to Club Vision is that you won't get much out of it if you're a casual player. The majority of *Football Manager 2020*'s major new features are centred around long-term play, and it's hard to take advantage of them without at least playing through a couple of in-game seasons.

The new Development Centre tool is a prime example of this, serving as an all-encompassing youth hub. It starts out as a method for tracking the development of your youth players and how close they are to challenging for a first-team spot. But then, after six in-game months, it evolves into a valuable resource for identifying the potential of your incoming youth candidates as well as providing detailed feedback on your loan players. It's the sort of feature you can, and probably will, ignore at the beginning of your managerial reign, but emerges vital as the seasons wear on.

NEED TO KNOW

WHAT IS IT?
The latest in the long-running management sim series

EXPECT TO PAY
£40

DEVELOPER
Sports Interactive

PUBLISHER
Sports Interactive

REVIEWED ON
RX580, AMD Ryzen 5 2600X, 16GB RAM

MULTIPLAYER
Yes

LINK
footballmanager.com

GAME ON

The match engine itself proves visually reminiscent of last year for the most part. There are some improvements – player and manager models appear slightly enhanced and pitch effects are improved too. Players still look like they're skating on ice at times, but their intelligence feels like a step up from *FM 2019*.

The remainder of *Football Manager 2020*'s feature set is primarily business as usual, albeit with plenty of quality of life updates. Some of them, again, are tailored towards long-term play, such as the convenient 'proposed playing time', which allows you to designate a player's squad status across multiple years. It means I can play someone like Man Utd's Mason Greenwood on an occasional basis, but still keep him happy by promising increased game time in future seasons.

You'll need to sink plenty of hours into *FM 2020* to truly realise its exhaustive potential. The fact that Sports Interactive has tailored their headline features almost entirely towards loyal and dedicated players is commendable, but it means certain aspects can appear underwhelming.

If you can afford the time though, the new features in this year's game are absolutely worth your attention. There's scope to play for countless seasons and still be presented with fresh challenges, and the new Development Centre system makes building for the future more compelling than ever. It's *Football Manager* with a substantially greater dose of longevity. ■

FUTURE PROOFING *How Club Vision works*

NEW DIGS
First, you're brought into the swanky new boardroom.

CLUB OVERVIEW
The chairman then provides you with a look at the club's stats and details

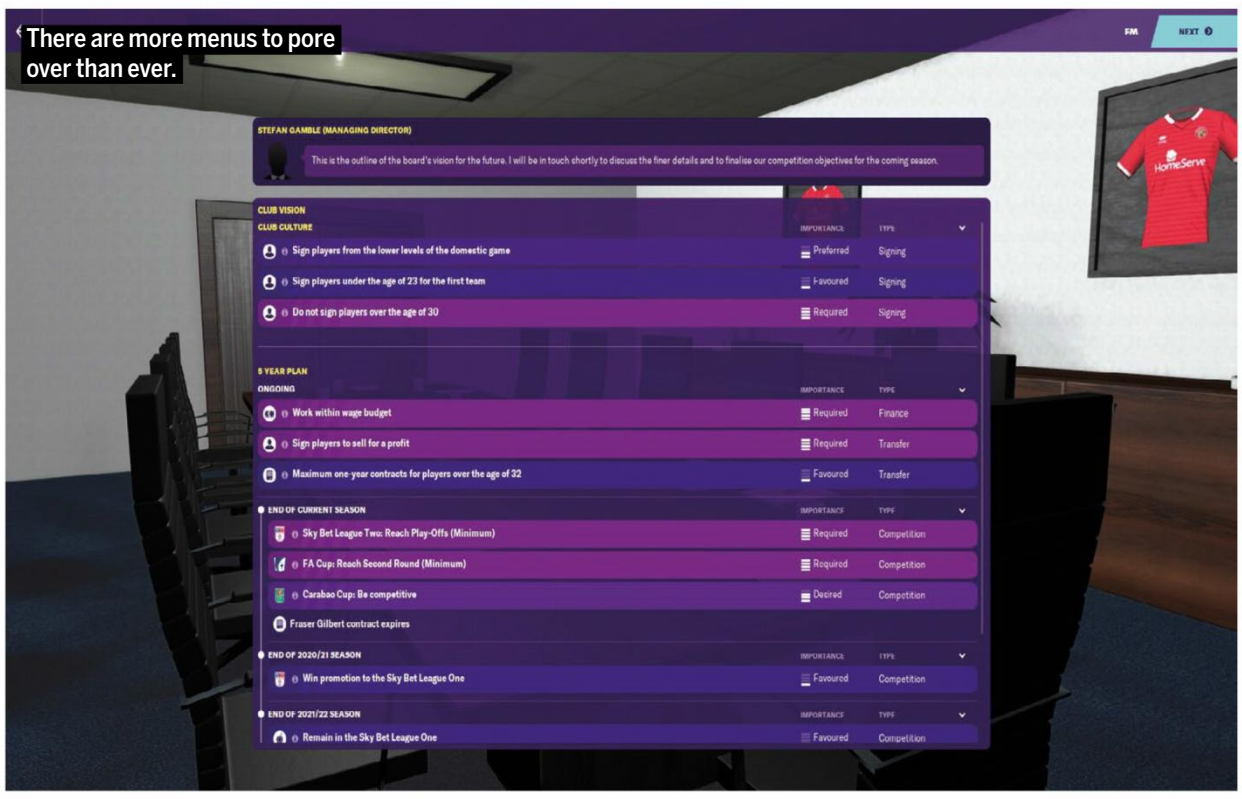
SET YOUR TERMS
Finally, your objectives are laid out. These can be negotiated later on.

PC GAMER VERDICT

***Football Manager 2020* is another superb entry that feels tailor-made for the series' most dedicated players.**

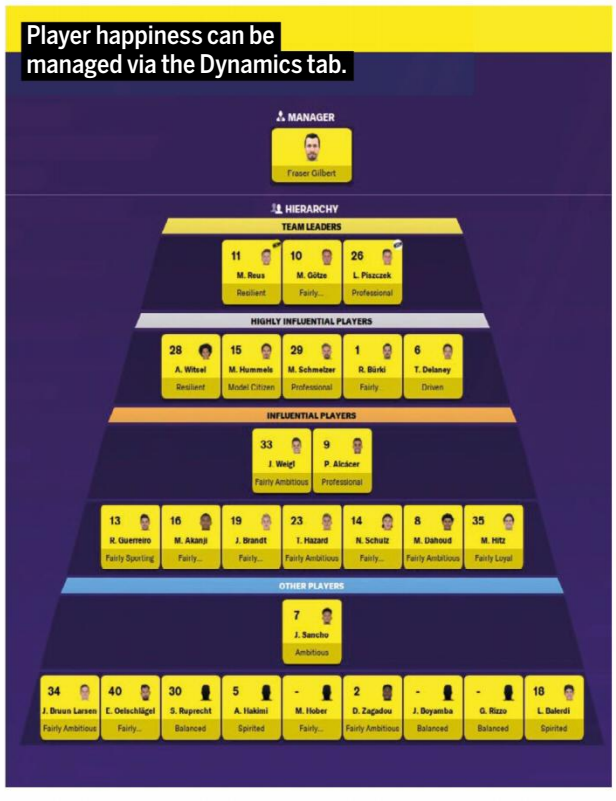
87

The ever-popular VAR returns for high-level games.
Match Preview
Dressing Room
Tunnel
Kick Off
DRESSING ROOM
PREMIER DIVISION
12:00 kick-off at The City of Manchester Stadium, Manchester
Drizzle
23°C
10 S. Agüero
21 D. Silva
17 K. De Bruyne
20 B. Silva
25 Fernandinho
22 B. Mendy
27 J. Cancelo
30 N. Otamendi
5 J. Stones
14 A. Laporte
31
9 T. Abraham
11 Pedro
8 R. Barkley
10 Willian
17 M. Kovacic
7 N. Kanté
3 M. Alonso
4 A. Christensen
2 A. Rüdiger
28 C. Azpilicueta
1 K. Arrizabalaga
5-2-3 WB - Control Possession
Cautious 4-2-3-1 Wide -
SUBSTITUTES
2 K. Walker
26 R. Mahrez
9 Gabriel Jesus
11 O. Zinchenko
16 Rodri
7 R. Sterling
13 W. Caballero
29 F. Tomori
5 Jorginho
23 M. Batshuayi
19 M. Mount
15 K. Zouma
18 O. Giroud
Last 5 Mins
This is a beta version


There are more menus to pore over than ever.
FM
NEXT
STEFAN GAMBLE (MANAGING DIRECTOR)
This is the outline of the board's vision for the future. I will be in touch shortly to discuss the finer details and to finalise our competition objectives for the coming season.
CLUB VISION
CLUB CULTURE
IMPORTANCE
TYPE
Sign players from the lower levels of the domestic game
Preferred
Signing
Sign players under the age of 23 for the first team
Favoured
Signing
Do not sign players over the age of 30
Required
Signing
5 YEAR PLAN
ONGOING
Work within wage budget
Required
Finance
Sign players to sell for a profit
Required
Transfer
Maximum one-year contracts for players over the age of 32
Favoured
Transfer
END OF CURRENT SEASON
Sky Bet League Two: Reach Play-Offs (Minimum)
Required
Competition
FA Cup: Reach Second Round (Minimum)
Required
Competition
Carabao Cup: Be competitive
Desired
Competition
Fraser Gilbert contract expires
END OF 2020/21 SEASON
Win promotion to the Sky Bet League One
Favoured
Competition
END OF 2021/22 SEASON
Remain in the Sky Bet League One
Favoured
Competition

You can still play in 2D mode if you want to.

TEAM SELECTION ADVICE
Recommendation From:
UPCOMING FIXTURES
Man City Under 23s (FR)
CSKA Moscow (FR)
Young Boys (FR)
Besiktas (FR)
Milan (FR)
Cancel
Use Suggested Squad


Player happiness can be managed via the Dynamics tab.
MANAGER
Fraser Gilbert
HIERARCHY
TEAM LEADERS
11 M. Reus Resilient
10 M. Götze Fairly...
26 L. Piszczek Professional
HIGHLY INFLUENTIAL PLAYERS
28 A. Witsel Resilient
15 M. Hummels Model Citizen
29 M. Schmelzer Professional
1 R. Bürki Fairly...
6 T. Delaney Driven
INFLUENTIAL PLAYERS
33 J. Weigl Fairly Ambitious
9 P. Alcácer Professional
13 R. Guerreiro Fairly Sporting
16 M. Akanji Fairly...
19 J. Brandt Fairly...
23 T. Hazard Fairly Ambitious
14 N. Schulz Fairly...
8 M. Dahoud Fairly Ambitious
35 M. Hitz Fairly Loyal
OTHER PLAYERS
7 J. Sancho Ambitious
34 J. Bruun Larsen Fairly Ambitious
40 E. Delschlägel Fairly...
30 S. Ruprecht Balanced
5 A. Hakimi Spirited
- M. Hober Fairly...
2 D. Zagadou Fairly Ambitious
- J. Doyamba Balanced
- G. Rizzo Balanced
18 L. Balerdi Spirited

05:54
MORECAMBE 0
WALSALL 0
First Half
Second Half
PAUSE
Pitch
Tactics
Analysis
Stats
Updates
Make Sub
Positive 4-1-4-1 IM
Positive
Team Instructions
Opp Instructions
Shouts
Swindon 1-0 Colchester Greg Halford (0)
Conlan moves the ball back to Foulds
This is a beta version
The match engine features improved player models this year.

NATURAL TALENT

Finding a spark of genius in LOST EMBER. *By Luke Kemp*

To be honest, 'you can possess a wombat and force it to do your bidding' ought to be a strong enough pitch to sell this game to you on its own. But there's so much more to the experience than marsupial mind control. The fundamental premise of being able to jump into the body of any creature you see is intriguing enough. Tie it into a story with heart and a surprisingly intricate understanding of life, however, and you have something that's truly special.

Mooneye has a deep love and respect for nature, something that becomes apparent within seconds of the player taking control. Taking my first steps as a wolf, I'm pleasantly surprised at how realistic the movement is. The environment, from these first moments right up until the credits roll, is endlessly fascinating and a joy to explore.

You'll intermittently need to take control of another animal (achieved with a simple button press) to progress, when your default wolf form is, say, too big or too not-a-fish to keep going. When you become a wombat for example, you don't gain the ability to sing catchy British indie rock, but you are now adorable enough to squeeze through small gaps. You can also curl up into a ball and roll around in this form, because... well, there's never a time you'll have to do this. But this fact offers a window into the true appeal of *Lost Ember*.

There is almost always something to reward curiosity. There's a wealth of collectibles to find, and there are also some lovely little touches that could so easily be missed. *Lost Ember* encourages you to explore what it even terms Silly Little Things, animal actions with no purpose such as lying down or just eating a pawful of berries. I think one of my favourite moments, though, was finding a duckling to take control of. Watching its little legs move at double speed while I paddled, and finding that it could only stay in the air for a few seconds when I tried to fly, brought a smile to my face I had absolutely no chance of fighting.

There is almost always something to reward curiosity

HAPPILY EMBER AFTER

Lost Ember has no enemies, no puzzles, and very little in the way of threat. It's possible to 'die' by falling too far, but if that happens, you respawn within seconds. The game picks you up, dusts you off, and essentially says 'hey, don't worry about it, carry on'. It's a game that loves me, and I love it back.

I've avoided discussing the story, as it deserves to be experienced fresh. It's not complex, but it's surprisingly deep, and almost without exception painted with a delicate hand. It masterfully tackles fundamental truths such as the fact that violence begets violence, nobody should be quick to criticise without being in possession of all the facts, and blind rage can lead to tragedy.

I saw one of the major twists coming at least an hour before it arrived, but even then, it remained an example of superb storytelling.

It's not quite perfect, because nothing is. I've come across a few technical hiccups, most memorably when my wolf became stuck in a log after exiting a wombat (now there's a sentence I didn't think I'd be typing last week). The section near the end that requires you to control mountain goats is disappointing – the climbing is slightly awkward, and the most traditionally videogamey part of the experience (not to mention the fact that the camera will sometimes shoot up your goat's bum). Even so, it doesn't drag, it's far from bad and you get to wallrun as a goat. It's hard to get too mad at that.

These minor criticisms are swallowed by the sheer bliss that makes up every second of play elsewhere. Every animal has a unique control scheme and exploring as each of them is a sheer delight. Pretentious as it may sound, the love and care that's gone into this world and the creatures that inhabit it make me feel close to nature. That's an amazing and admirable achievement. I connected with this game on a level I never expected, and I'm sure you will, too. Mooneye has infused the experience with a wonder and a magic that is rarely seen. ■

NEED TO KNOW

WHAT IS IT?
A nature-loving, animal-possessing adventure with a strong story

EXPECT TO PAY
£26

DEVELOPER
Mooneye Studios

PUBLISHER
Mooneye Studios

REVIEWED ON
GeForce GTX 1650, AMD Ryzen 5 3550H, 8 GB RAM

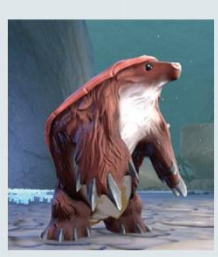
MULTIPLAYER
No

LINK
lostember.com

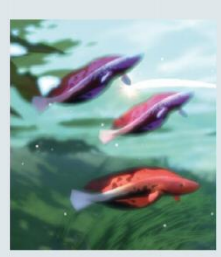
TEAM WOLF *A few of the animals available to you*

GOAT
Like Spider-Man, but a goat.

LEGENDARIES
There are special, shiny beasts to find.



ARMADILLO
"Can I dig it?" Yes you can.



FISH
Swim when you're winning.

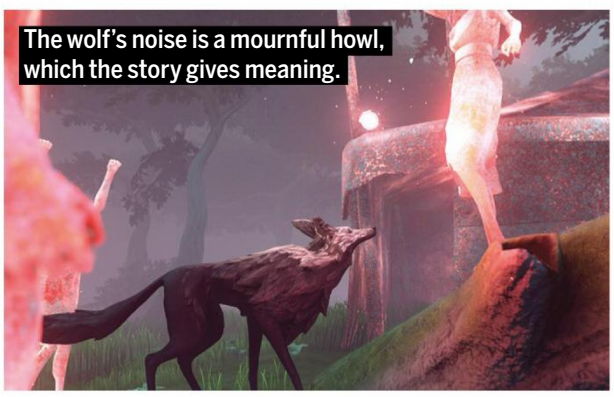
PC GAMER VERDICT

Lost Ember is a wonderful, unique, and unforgettable experience with a love for nature.

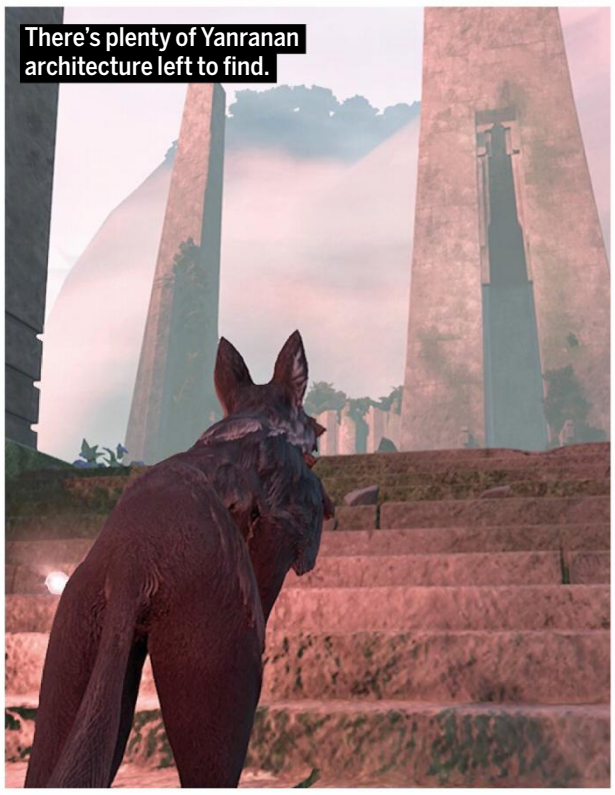
90

Glimpses of the past are triggered by interacting with these fires.

The story is partly told via sort of ghost statues.


The wolf's noise is a mournful howl, which the story gives meaning.

Being a hummingbird is awesome.


There's plenty of Yanranan architecture left to find.

DRUG BUST

NARCOS: RISE OF THE CARTELS depicts a disturbingly literal war on crime. ***By Tom Hatfield***

I've only watched the first series of Narcos, but I know enough to know that it is a crime show: it features things like police work, with the DEA protagonists capturing Pablo Escobar's lieutenants, finding evidence etc. *Narcos: Rise of the Cartels* contains almost none of this and instead tries to tell the story of the Medellin Cartel exclusively through *XCOM*-style turn-based tactical combat, turning the war on drugs into a literal war.

Let's talk about the elephant in the room here: this is an extremely messed up way to depict police work. In the very first scene of the tutorial the game asks the player to 'bring a gang member in' – this involves shooting him repeatedly because this is the only interaction that is available to you (until that is, you unlock grenades). Occasionally missions will have objectives like 'obtain some evidence' or 'rescue a hostage', but just as often it's 'assassinate a cartel leader'. Narcos the TV show was clearly trying to acknowledge the amoral tactics employed by the police, but *Narcos* the game only really does so via the fact that it contains clips from the show. The fact that you've gunned downed hundreds of people in the street over the course of the game is barely commented on. This is the peril of a real-world setting – it invites real-world questions.

I'm not against depicting the drug war in a strategy game, but *Rise of the Cartels* doesn't really intersperse the combat sections with anything but cutscenes and levelling up. It would help if there were some kind of strategy layer between missions showing the police doing actual police work (or the cartels expanding their influence), but even then there would still be an extraordinary amount of bloodshed, even for 1980s Columbia. As it is, the most interesting parts of the show – such as Escobar's attempt at a political career, or the wild card element of militant communists M-19 – don't fit within the game's framework.

WE ARE THE BADDIES

Playing as the cartel makes things less morally fraught, as you are at least aware that you are definitely the bad guys. But the two campaigns are ultimately very similar, with both sides using reskinned versions of the same units, just joined together by different cutscenes and missions.

Every unit can heal one hitpoint a turn by not moving

The big showcase change from the old turn-based tactics formula here is when the game quickly breaks into manually-aimed modes for 'kill shots' (a random chance to finish off an enemy on low health) and 'counteract' (basically overwatch). While I can see the logic of adding them, they aren't satisfying enough for anyone who wants a reaction shooter experience, and are far too intrusive for someone who wants hands-off strategy gaming.

An unfortunate series of mechanics interact here. Every unit can heal one hitpoint a turn by not moving, but in between missions it costs money to heal a unit up. As a result, the player is incentivised to hang back, play slow, and heal all their units to full before finishing the mission. This isn't helped by the highly defensive AI, which makes roughly the same calculation I just did and spends most of its time standing still and relying on overwatch, sometimes even neglecting to protect the objectives it is supposed to be defending.

It also has the unusual choice to do an 'I go then you go' turn-based system, but with no restrictions on using the same units over and over. It often means one or two members of your team will get steadily left behind, as there is no mandatory move to catch them up.

Finally there's the bane of any licensed game: an automatic game over whenever anyone who happens to star in the Netflix show gets killed. It's a recipe for frustration.

I've spent most of the last year playing various *XCOM*-likes and *Narcos* isn't the worst, but it isn't impressive either. More importantly, there simply isn't enough variety here. Once you've played a dozen missions you've seen basically all the tricks the game has, yet it expects you to continue playing with only a few new perks to keep your interest. Ultimately I found myself asking the dreaded question, "Why am I not just playing *XCOM* instead?" ■

NEED TO KNOW

WHAT IS IT?
XCOM clone based on the Netflix show

EXPECT TO PAY
£24.99

DEVELOPER
Kuji

PUBLISHER
Curve Digital

REVIEWED ON
Intel i5, 16gb RAM, Nvidia GTX 1660

MULTIPLAYER
No

LINK
bit.ly/37jYmBm

DARK MIRROR

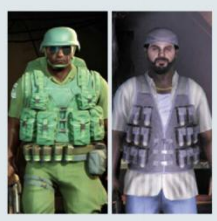
What if both sides are just as bad?

POLICE/ LOOKOUT
Role: Fast mover/ buffer, bad gunner.

SEARCH BLOC/ ENFORCER
Role: Mid range AOE gunner.

DEA/ SICARIO
Role: Close range shotgunner.

SPEC OPS/ MERCENARY
Role: Long range fire support.



DEMOLITION/ SPECIALIST
Role: Appropriate level of explosions.

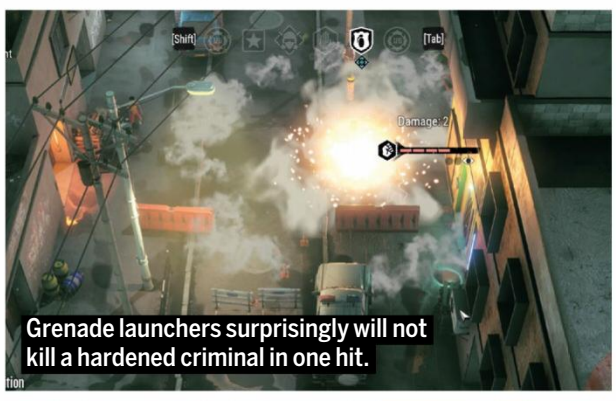
LEADER
Role: Being in the show, if they die it's game over.

PC GAMER VERDICT

Narcos: Rise of the Cartels **is a mediocre *XCOM*-like wrapped in a deeply worrying militarised police theme.**

41

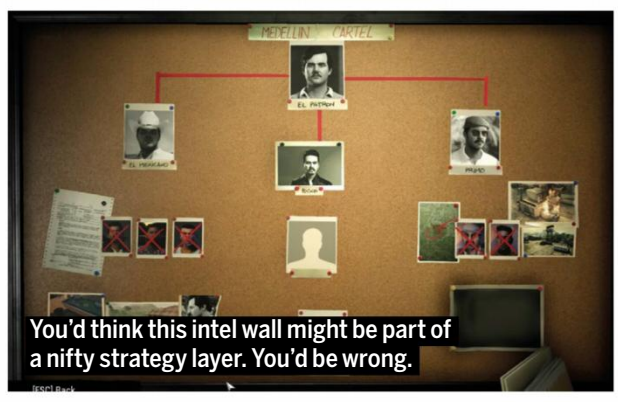
The perils of proc gen – this cool casino level took place entirely on the street outside.

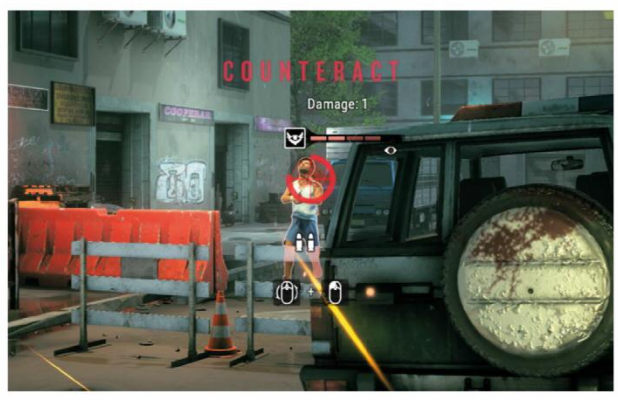


Grenade launchers surprisingly will not kill a hardened criminal in one hit.

Believe it or not these two guys can't shoot each other.

Note that the guy in a bulletproof vest and the guy in shorts have the same hit points.


You'd think this intel wall might be part of a nifty strategy layer. You'd be wrong.



COOL TITLES FOR NO CASH by Tom Sykes

Closed doors delay the creatures for a little while.

The art can be vague, but that's arguably a good thing in a horror game.

No idea what this thing is, but it sure is freaky.

GORE BLIMEY

Clean up your own messes in bloody browser horror TRIGGORE

T*riggore*: not just a character from Only Fools and Zombies, but a pleasing portmanteau title for a game that mixes horror with light-gun-style shooting. You're trying to survive for as long as possible here, in a dimly lit house stashed with supplies and, less welcome, with advancing monsters.

Your first order of business should be to illuminate the house. This you achieve by finding a box of matches, and holding left-click over candles – after a few seconds, they'll shed some light on the situation. Now that you can see you're able to rifle through drawers and cupboards, and in dusty corners for essential weapons and other bits. But, as you search, you run the risk of being attacked by those creatures.

The design of the monsters is impressive. The deadly zombies, bats, wormy things, and skittering spiderlings are at once cartoonish and genuinely horrible, their detailed animation instilling fear as they get close to you, and triumph as they explode in a satisfying shower of blood and bits. While the guns feel a little under-baked, those explosions act as a great reward – and, weirdly, they're not just for show. In many games corpses and gore are little more than background detail, but here they make themselves known by obscuring the screen. When you've killed enough monsters, you may find that dropped items, or candles, or containers have been covered in blood. So, how to clean them up so you can find them?

You can only hold one item at a time, including weapons

One of the items is a mop. The other is a bucket. Putting two and two together, you can use both to clear up messes in the house. It's yet another thing to keep track of in a gory game of spinning plates. If you're not cleaning up bits of monsters, you're shooting them in their faces. And, if you're not doing that, you're rifling through drawers, or gobbling life-restoring chocolate, or shutting doors to slow the creatures down.

SQUEAKY CLEAN

Fans of vaguely stressy time management will be in their element here. *Triggore* is pretty good at the whole tension thing, giving you just enough warning to do something about a wave of monsters – if you do everything perfectly, that is. Compounding the stress is the fact that you can only hold one item at a time, including weapons. Where did you drop your shotgun? Shit, where did you put the matches, and did you remember to close the front door?

It's all very exciting, for a few waves at least. But *Triggore* is a small game that keeps on going. You've fully explored the house, you've killed waves and waves of monsters, and survived for a few in-game days. You've seen everything – and yet the horror keeps on going.

Lights are snuffed out, containers refilled with helpful stuff. It's like you've been snuck back to the beginning of the game.

It's always a bit of shame when you're the one who has to end a game. But this is a wonderfully tense experience, while it lasts. ■

NEED TO KNOW

WHAT IS IT?
A horror-themed shoot-'em-up where you have to tidy up after yourself

EXPECT TO PAY
Free

DEVELOPER
Francis Coulombe, LumpyTouch

PUBLISHER
Francis Coulombe

REVIEWED ON
AMD A4-6300@3.7GHz, 6GB RAM, GeForce GT 610

MULTIPLAYER
None

LINK
bit.ly/triggore

PC GAMER VERDICT

A tense time management game that borrows the best bits from survival horror and shooting galleries.

72

SOLID SNAKE

Pick a side in SUB DRAGON

Shoot-'em-ups and puzzle games have had dealings before now. Arguably the pinnacle of this mingling is *Ikaruga*: a shmup where you switch between black and white forms, in order to absorb black or white bullets, respectively. That same concept has made its way to *Sub Dragon*, though not in the way you might expect.

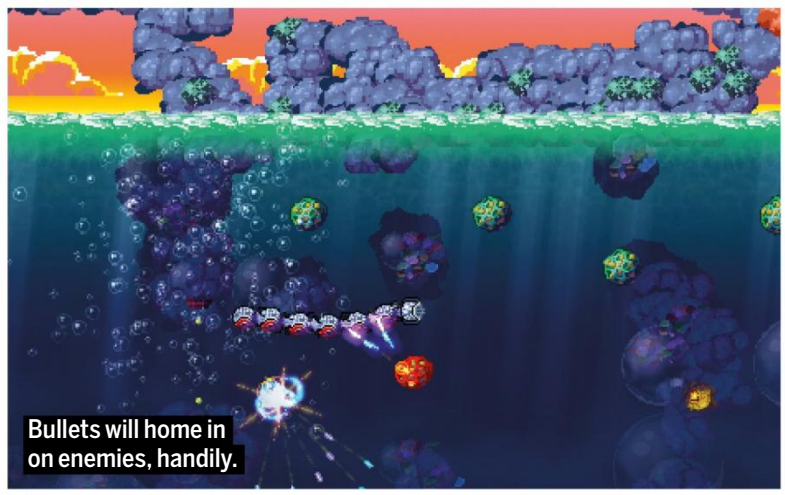
Instead of piloting a ship, you're piloting a dragon. Though it's one that looks and handles more like a snake. Also, you're not in space, but in a samey aquatic environment home to urchiny, coral-esque enemies. Unlike our Earth coral, which sits around waiting for us to ruin it, the coral on this planet spews out streams of deadly bullets – one hit and you're back at the checkpoint.

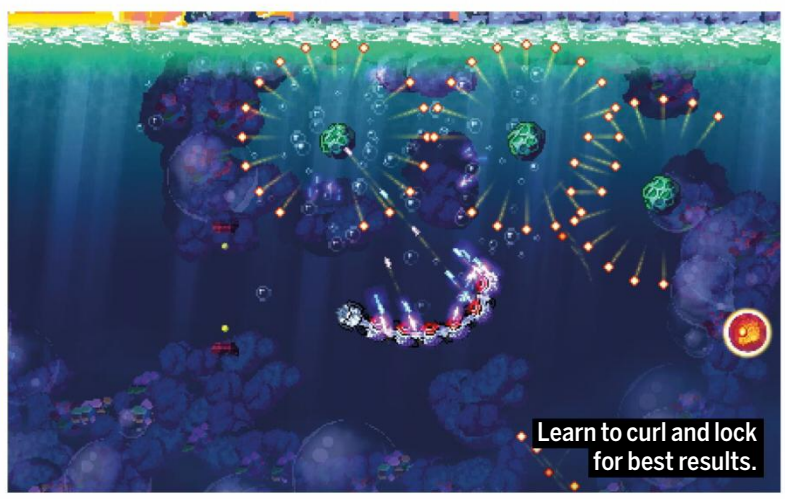
That's only when your red side is facing the bullets, however. Rotate the dragon so that its white half is pointed at the projectiles, and they'll plink harmlessly off its armoured carapace. So it's less a matter of switching forms and more of tactically slithering around the environment – while finding the time to expose your underbelly now and again to destroy enemies.

In *Sub Dragon* you don't press a button to shoot. No, it happens automatically, when your exposed red half is facing an enemy. You'll need to constantly move your form around in order to defend yourself from bullets, but also to fling a few of your own – it's a clever, granular system that's, strangely, only lightly exploited here.

Like a lot of jam games, there's a jewel of an idea at the core of *Sub Dragon*'s ocean planet. There's just not enough progression in its level or enemy design to really make the most of it, which is a shame. ■

75





NEED TO KNOW

EXPECT TO PAY	DEVELOPER	LINK
Free	Deepnight.net	Deepnight.net

ENTER THE FUNGEON

Throwing daggers in DUNGSCOOT

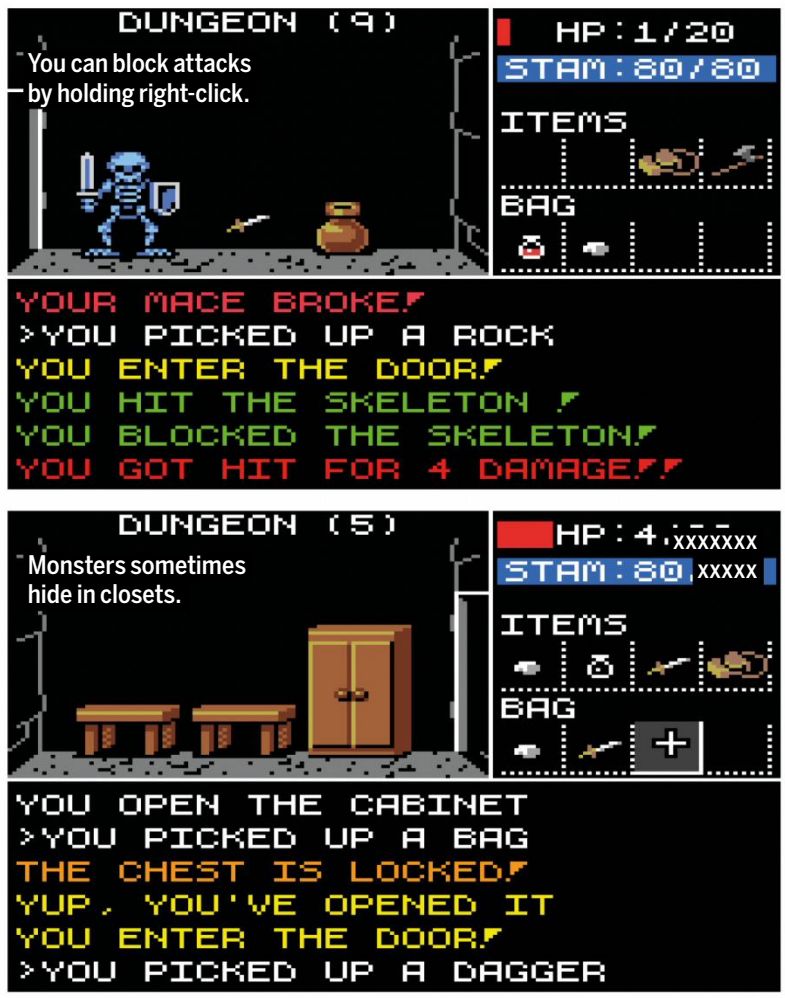
The old-fashioned dungeon crawlers might purport to be games about exploration or character-building, but really they're games about chucking stuff – chucking rocks onto pressure plates, flinging daggers at kobolds, throwing junk to make room for not-quite-junk. Dungscoot gets it. It's almost entirely about chucking stuff. About using projectiles to injure enemies in a dungeon.

Like a compressed dungeon crawler, *Dungscoot* shunts you from one tiny room to another tiny room, each of which may contain monsters, or closets, or locked chests. These containers hold weapons and keys, potions and poisons, which you'll immediately stuff into your minuscule backpack. You get around via side doors, while back doors set into walls will ferry you deeper inside the dungeon, to harder areas.

From its point-and-click combat to its constant inventory wrangling, *Dungscoot* looks and plays like an old 2D CRPG, such as *Dungeon Master* or *Lands of Lore* – minus, slightly disappointingly, the open maps and puzzles. There's also an element of randomness – some rooms will be packed with riches, while others will be empty save for an goblin or a useless bench. Re-enter a room and it may even have changed form entirely. *Dungscoot*, in a word, is unfair.

But if you're looking for an authentic, nostalgic dungeon crawler – a straight hit of the good stuff, with absolutely no fluff to bulk it out – the game delivers with its pixel art, its streamlined inventory management, and of course its focus on item-chucking. It's a silly, slightly broken game that, through its exuberance and its keen nostalgia, becomes more than the sum of its parts. ■

65



NEED TO KNOW

EXPECT TO PAY	DEVELOPER	LINK
Free	Robin Field	robinfield.itch.io

OLD GAMES REVISITED by Matthew Elliott

They want me to jump off, right?

CHOOSE LIFE

Choose a job, choose a career, choose Trainspotting references in THE STANLEY PARABLE

This oddball indie gem is about decisions and how hard it can be to make them. This is ideal because I've spent at least an hour deliberating over whether it's too emotionally challenging for a deliberately prosaic They're Back column. And, after completing it at least eight times, I've decided that yes, it's definitely too exciting, but I'm going to include it anyway out of a sense of slavish self-determination.

That said, I manage to get what I think might be the most tedious ending entirely by accident. Our hero, Stanley, finds himself at his boring desk in his boring office doing his boring job. But for some reason, everybody else has disappeared. You can follow the narrator as he directs you through the game; break off, find your own path, and see how the voice in your head responds; or, do what I did, and accidentally shut myself in my office while trying to work out the controls. So instead of exploring the mystery engulfing Stanley's otherwise unremarkable existence, I hide under my desk because I don't want to go through the process of deciding whether I want to decide things or not.

This is fine, though, because the thing *The Stanley Parable* tells us is that you're still making a choice even when you're doing what you're told. In fact, the game shows it's actually harder to do nothing. Yes, you completed *Sekiro* using a *Farming Simulator* controller. But have you tried standing perfectly still in *The Stanley Parable*? It's basically impossible. I rule out doing nothing as a non-option, and try some nice, simple defiance instead. The most extreme version of this is to destroy myself in-game so the narrator stops telling me what to do.

I make Stanley commit suicide by hurling himself off some stairs

I make Stanley commit suicide by hurling himself off some stairs. Except that it doesn't work, so I have to drop down multiple times, presumably before urging my shattered frame back up the steps like a QTE from a depressing David Cage game. Three falls is enough to finish me off. I'm not sure what I've achieved, but there's a grim determination to it that I love.

NEED TO KNOW

WHAT IS IT?
If Douglas Adams wrote The Office

EXPECT TO PAY
£10

DEVELOPER
Galactic Cafe

PUBLISHER
Galactic Cafe

REVIEWED ON
Intel Core i7-7700 CUP @ 3.60GHz, 16 GB RAM, NVIDIA GeForce GTX 1070, Windows 10

MULTIPLAYER
None

LINK
store.steampowered.com

CHOOSE YOUR FUTURE

I don't want to talk about all the endings I got because you should absolutely play *The Stanley Parable* yourself, but my experiences included accidentally spoiling the game for myself by going the wrong way and seeing something I shouldn't, and a credits sequence set in a building that was the middle point between a cold museum and debug room.

At one point I'm encouraged to try some Michael Hanneke self-determination and turn the game off before Stanley is crushed by heavy machinery. But I can't bring myself to make the decision quickly enough, and I'm left with a blank screen and no option but to start again. And if that's not a clear explanation of what *The Stanley Parable* tells me about my own deficiencies as a human being, I'm not sure what is. ■

PC GAMER VERDICT

These days it looks as boxy and tired as a real civil service office, but it remains an endearingly funny anomaly.

92

HOME WRECKER

No dolphins required in HOUSE FLIPPER

The room I'm improving isn't ninety-nine percent clean. It's one percent dirty. This is unacceptable. I've reached a point in *House Flipper* where every project I do has to be perfect, no matter the cost to my enjoyment.

It's the sort of game that encourages you to go that little bit further for reasons I can't fathom. I redecorate and furnish a nursery for one client, and can't resist buying some toys to go on the empty bookshelf. It's the kind of next-level service that'll win me business with other clients.

Soon I'm earning enough cash to start redecorating the reeking cupboard I call home. I sell the tepid motivational photos and replace them with an unflattering, wall-filling photo of my real-life child. I could be spending this important time with her, but I have a digital space to improve. I'm sure she'll understand.

The process of gradual, repetitive improvement in *House Flipper* should be numbingly banal, but I love it. Each project is like the satisfying tidying-up montage from an '80s frat party movie. Everything has a really pleasant vibe, too. *House Flipper* resembles sort of considerate friend who cooks six different puddings to accommodate every conceivable dietary requirement. You can change the hairiness of your arms to match your own, and even swap cockroaches for broken glass if you don't like creepy-crawlies.

House Flipper has made me want to do DIY IRL. Even the thought of painting doesn't repulse me, which says something about how unrealistic the process is in *House Flipper*. Or this is the guilt that comes from my own child judging me in-game for decorating pretend nurseries instead of her actual bedroom. ■

72

This would be adorable if not for the bedside chainsaw.

Sweeping generalisations.

NEED TO KNOW

EXPECT TO PAY	DEVELOPER	PUBLISHER
£15.50	Empyrean	Frozen District

Question my efficiency and you get the DOUBLE STAMP.

PAPERS PLEASE

Forget about the dull thudding footsteps of the xenomorph in *Alien: Isolation* or *Resi*'s zombie dogs; the scariest moment in gaming is receiving your third and final performance violation in *Papers, Please* when your son is dying and you can't afford bread. For a game that celebrates the routine, Lucas Pope's administrate-'em-up can be tremendously stressful. I don't remember it being this hard. There are tumbles of paper to cross reference with unwieldy guidance notes. Every single day the job I'm lucky to have gets more complicated. It's a grimly brilliant bit of social commentary with the best-designed stamping mechanism in all of gaming. ■

86

Underground nukes give 'hostile takeover' a new meaning.

OFFWORLD TRADING COMPANY

The loose theme of this month's games has been mundanity done right. *Offworld Trading Company* is a finance sim that just happens to take place on Mars. It's an RTS, but there are no military forces. Instead your battles take place in rapidly fluctuating markets. You mine, buy, and sell resources in a world where every sale affects the value of a product. I love it, but I'd honestly be more relaxed if I was sitting down for a game of *Amnesia*. Much as if I was running my own business, I enjoy a few hours of prosperity before giving up and letting fatigue and the inexorable march of capitalism consume me. ■

82

Delivering toys like a 12-ton Father Christmas.

EUROTRUCK SIM 2

The world is divided into two types of gamer: those who don't understand why anyone would spend their free time playing *Euro Truck Simulator 2* and those of us who realise that maintaining the speed limit on continental motorways for an unbroken 20 minutes is as close gaming gets to mindfulness. The only thing in the way of this zen state is the threat of some difficult reverse parking at the other end of the journey. Until then I'm immersed in a warm bath of local radio stations and immaculate autobahns. ■

82

Did you know that European forests, which provide wood for making paper and many other products, have grown by 44,000km^2 over the past 10 years? That's more than 1,500 football pitches every day![†]

Love magazines? You'll love them even more knowing they're made from natural, renewable and recyclable wood

[†]UNFAO, Global Forest Resources Assessment 2005-2015.

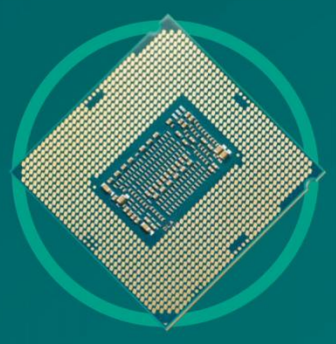
Two Sides is a global initiative promoting the responsible use of print and paper which, when sourced from certified or sustainably managed forests, is a uniquely powerful and natural communications medium.

There are some great reasons to #LovePaper
Discover them now,
twosides.info

TWO SIDES

HARDWARE

GET THE PC YOUR GAMES DESERVE



96
GROUP TEST
Find the right processor for your machine.

100
TECH REPORT
Making computers out of fungus. Yes, really.

102
BUYER'S GUIDE
Build the perfect PC for you, no matter your budget.

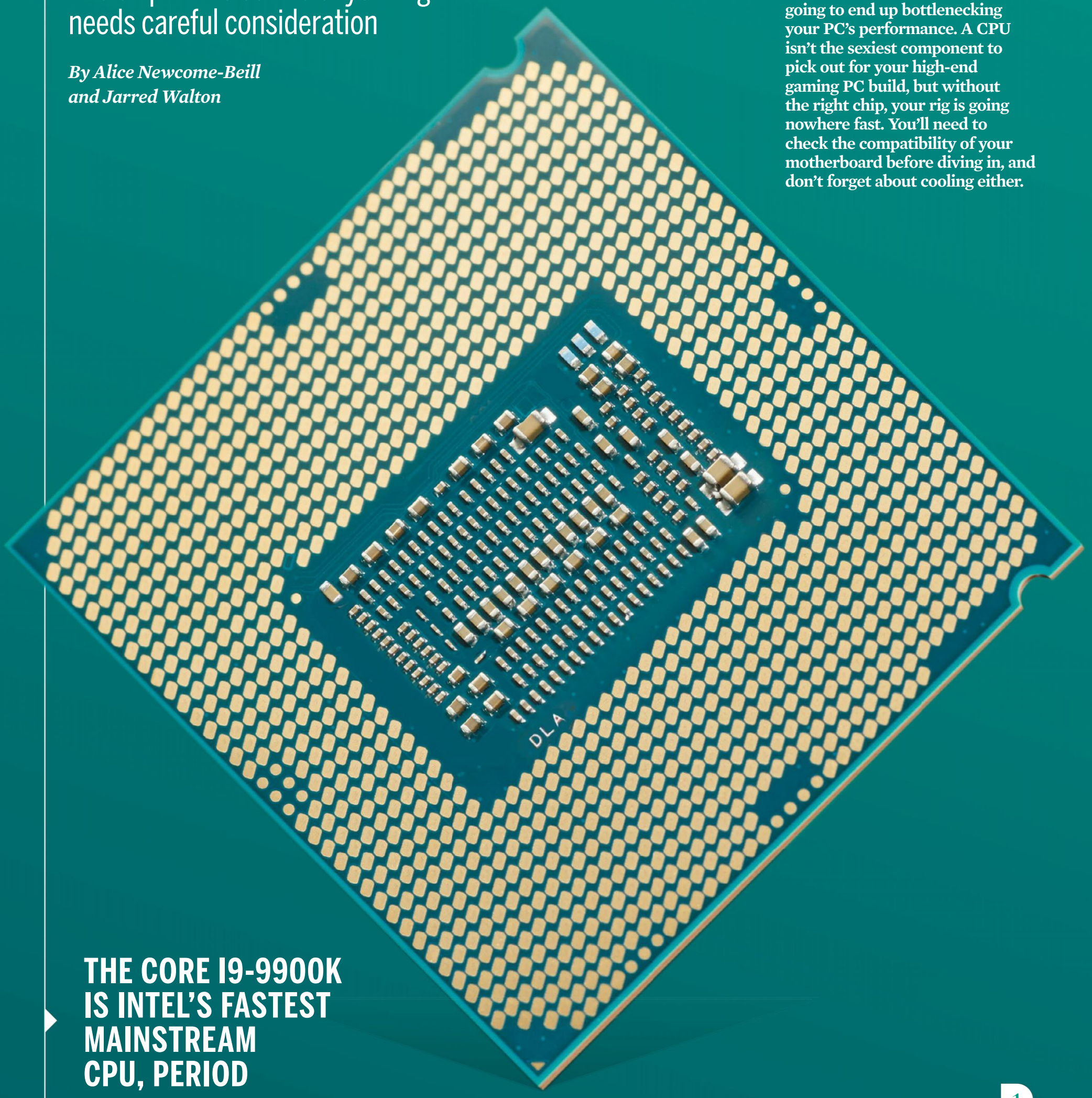
GROUP TEST

GAMING PROCESSORS

The chip at the centre of your rig needs careful consideration

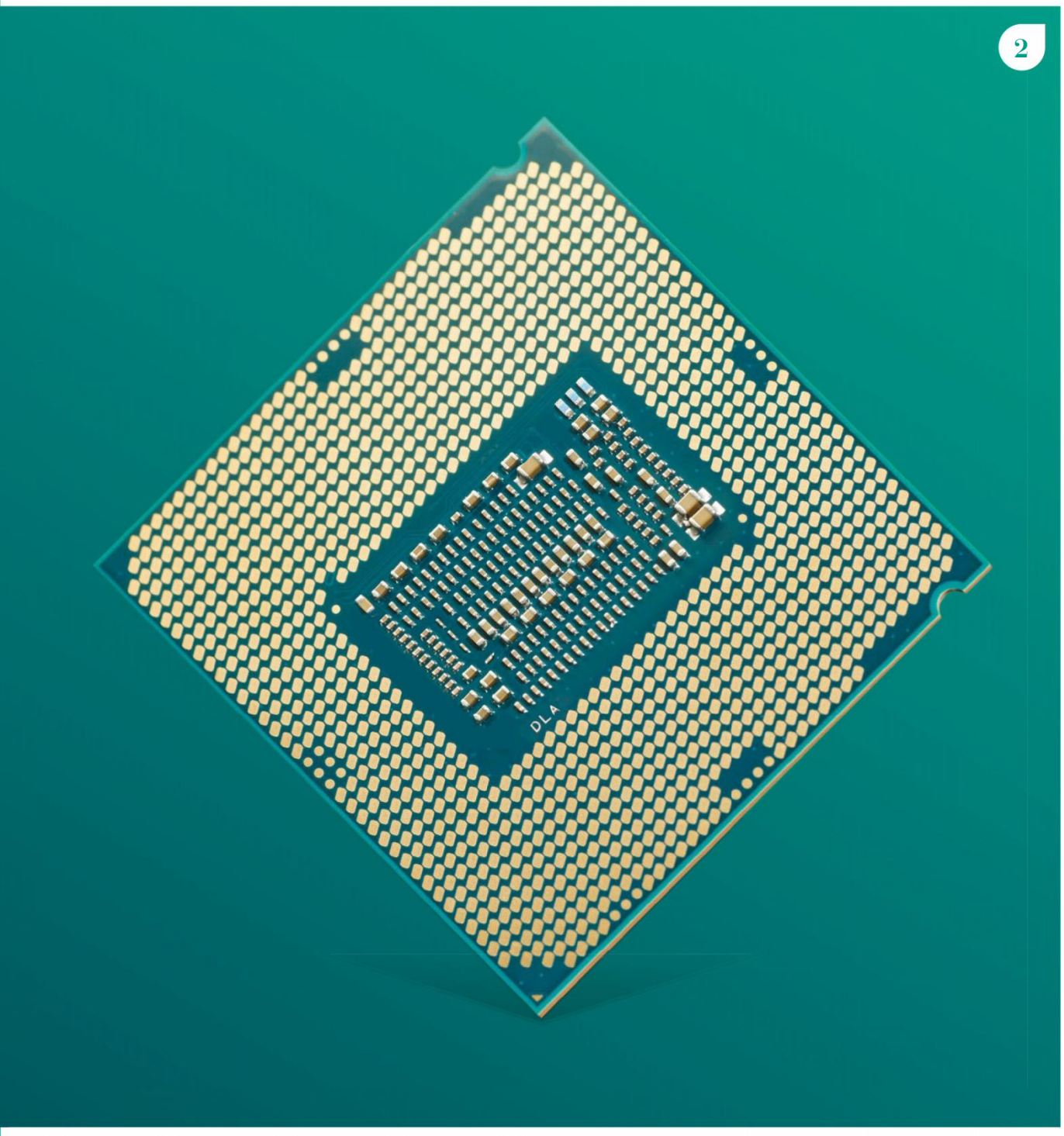
By Alice Newcome-Beill and Jarred Walton

The power of your CPU tends to have a tangible, trickle-down effect on the performance of the rest of your components. You can dump truckloads of cash into your graphics card, but without an appropriately beefy processor to push it to its limit, you're just going to end up bottlenecking your PC's performance. A CPU isn't the sexiest component to pick out for your high-end gaming PC build, but without the right chip, your rig is going nowhere fast. You'll need to check the compatibility of your motherboard before diving in, and don't forget about cooling either.



THE CORE I9-9900K IS INTEL'S FASTEST MAINSTREAM CPU, PERIOD

1



HOW WE TESTED

AMD has been gaining ground on Intel since Ryzen appeared in 2017, and today it's easy to justify buying CPUs from both companies. If you're using a 4th generation (Haswell) Intel CPU or earlier, or an AMD FX-series CPU or earlier, it's time to start thinking about upgrading.

For our testing, we use Nvidia's fastest GeForce RTX 2080 Ti graphics card. It's overkill, but at 1080p it shows the largest difference in gaming performance you're likely to see. Just remember that next year's RTX 3070, or the following RTX 4070, could end up beating today's 2080 Ti at a relatively affordable price. Upgrading your graphics card is a piece of cake compared to swapping out your CPU and potentially motherboard and RAM.

We've also used high-end G.Skill Trident Z and Flare X DDR4-3200 CL14 memory on all modern platforms, in either 2x8GB or 4x8GB configurations.

Again, this is to eliminate any potential bottlenecks and let the CPUs reach their maximum performance.

Liquid cooling was used on all CPUs, though for stock performance we saw zero difference between that and the box coolers on those parts that included cooling.

The motherboards used in testing were the MSI MEG Z390 Godlike for Intel's chips, which all use the LGA1151 socket, and MSI MEG X570 Godlike for third-gen Ryzen parts.

Core i9-9900K

INTEL £500

The fastest Intel processor for games, streams, more

1 For pure gaming, the Intel Core i9-9900K is overkill, unless you're planning on an extreme build with a top-tier graphics card. For those that do more than just play games, however, the Core i9-9900K is Intel's fastest mainstream CPU, period.

It's nominally a 95W part, but it will often exceed that under load. That's fine, because you'll need to bring your own cooling – we recommend a potent liquid cooling solution – but that's Intel's approach to all its K- and X-series processors.

There's also a 9900KS, which is technically a bit faster than the 9900K as it can hit 5.0GHz on all of its cores out of the box. It currently runs about £50 more than the 9900K, partly because it's new and in demand, which leads to price gouging. If you can find the 9900KS for around £550, it's a different story, but it's a 'limited edition' part regardless. Most 9900K chips will also overclock to 5.0GHz on all cores with a good cooler.

PC GAMER VERDICT

- ⊕ Fastest CPU for gaming
- ⊕ Plenty of cores for other tasks
- ⊖ Marginal overclocking headroom
- ⊖ Requires aftermarket cooler

SPECS CORES: 8 / **THREADS:** 16 / **BASE CLOCK:** 3.6GHZ / **TURBO CLOCK:** 5.0GHZ / **PCIE 3.0 LANES:** 16

Core i7-9700K

INTEL £350

Excellent gaming performance at a lower price

2 An interesting step down from the i9-9900K. It sports the same number of CPU cores and has similar clockspeeds, but for the first time, Intel has shipped a Core i7 without Hyper-Threading (the ability to run two threads on each core). In games, it's effectively tied with (actually very slightly ahead of) the more expensive Core i9, but costs up to £150 less.

It's a balancing act between price, performance, and features. It's also faster than the outgoing Core i7-8700K, thanks to the extra cores and clockspeeds even if it has fewer threads.

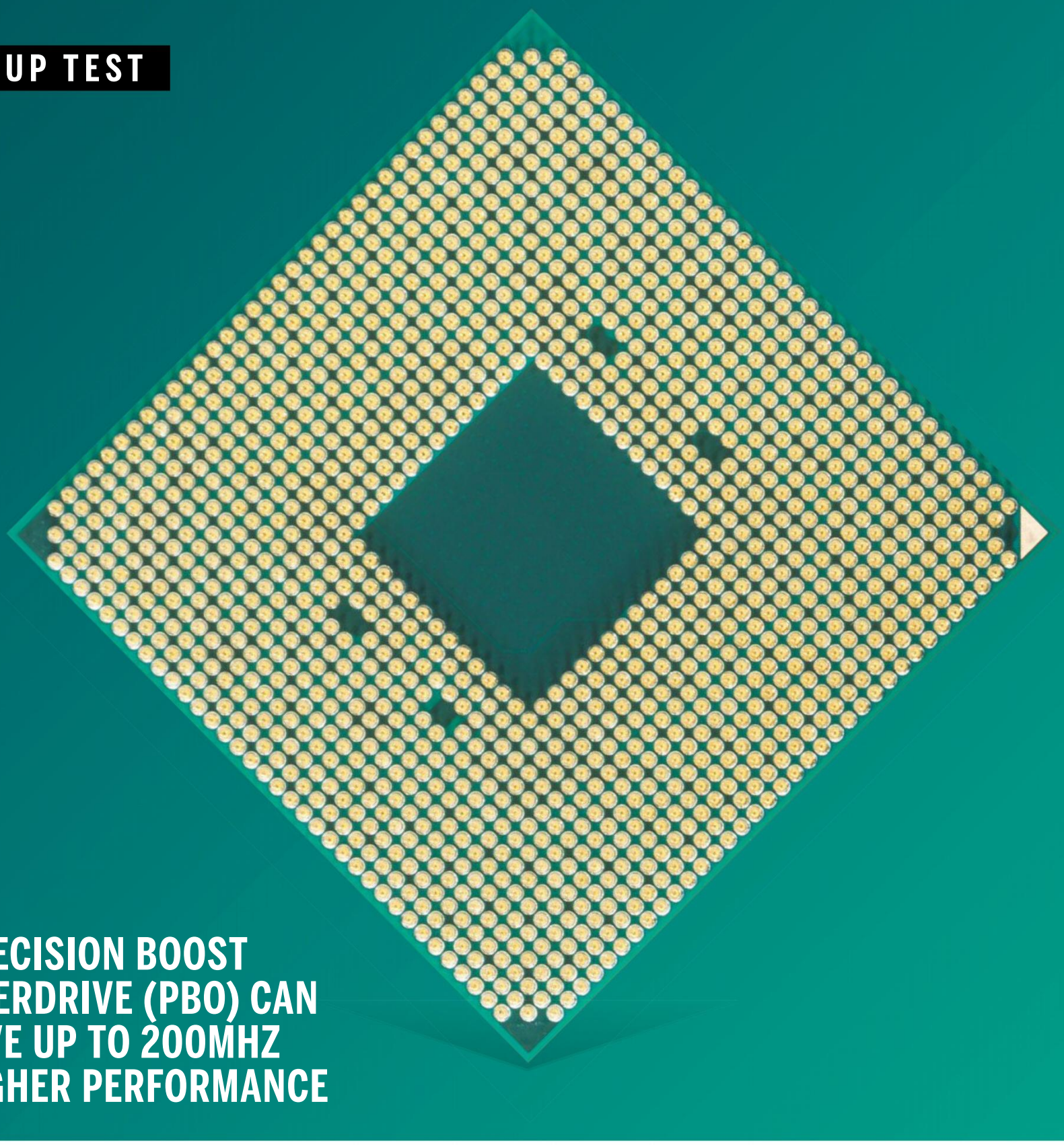
The lack of Hyper-Threading also means the i7-9700K doesn't get as hot as the Core i9, so you can get by with a good air cooler.

If you're livestreaming (with CPU encoding), doing video editing, or any other serious content creation work, stepping up to the 9900K makes sense. But if you're primarily concerned with gaming, an eight-core Intel CPU clocking close to 5GHz is as good as it gets.

PC GAMER VERDICT

- ⊕ Excellent gaming performance
- ⊕ Eight high-speed cores
- ⊖ No Hyper-Threading
- ⊖ Limited overclocking

SPECS CORES: 8 / **THREADS:** 8 / **BASE CLOCK:** 3.6GHZ / **TURBO CLOCK:** 4.9GHZ / **PCIE 3.0 LANES:** 16



PRECISION BOOST OVERDRIVE (PBO) CAN GIVE UP TO 200MHZ HIGHER PERFORMANCE

3

Ryzen 9 3900X

AMD **£550**

Team Red's best CPU for gaming and everything else

AMD's Ryzen 9 3900X costs roughly the same as Intel's Core i9-9900K, but it includes a decent Wraith Prism cooler and packs 50 percent more cores and threads. That translates into eight percent slower gaming performance, but 25 percent faster performance in multithreaded workloads such as video editing and 3D rendering.

If you're mostly worried about gaming, that eight percent deficit is only really apparent at lower quality settings and resolutions with the fastest GPU available (RTX 2080 Ti). It might matter if you're a professional gamer aiming for 240fps at minimum quality, but anyone else would be ecstatic with the performance the 3900X delivers.

While overclocking is possible, AMD locks you into a single clockspeed and that usually means lower clocks in lighter workloads. Precision Boost Overdrive (PBO) can give up to 200MHz higher performance while maintaining turbo ratios, and is the better solution.

PC GAMER VERDICT

- ⊕ Superb gaming performance
- ⊕ Decent cooler included
- ⊖ Slightly slower than i9-9900K
- ⊖ Limited overclocking potential

SPECS CORES: 12 / **THREADS:** 24 / **BASE CLOCK:** 3.8GHZ / **TURBO CLOCK:** 4.6GHZ / **PCIE 4.0 LANES:** 16

4

Ryzen 7 3700X

AMD **£310**

A superb mid-price choice for gaming setups

The Ryzen 7 3700X is nearly as fast in games as the 3900X and has all the other benefits of AMD's Zen 2 architecture. That includes PCIe Gen4 support, which isn't really necessary today but might become useful during the coming years. It's the sensible AMD choice, and you still get an eight-core/16-thread CPU with a Wraith Prism cooler.

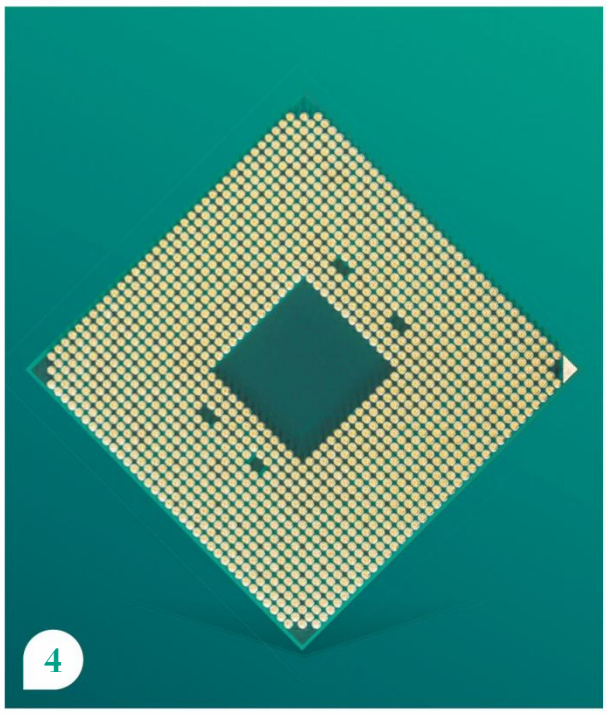
Compared to Intel's i7-9700K, it's about nine percent slower in gaming performance – again, at 1080p with an RTX 2080 Ti. If you buy a sensible GPU like AMD's RX 5700 XT, any difference in gaming performance is going to be largely meaningless. In multithreaded applications it's about 18 percent faster, and overall it wins on both performance and price.

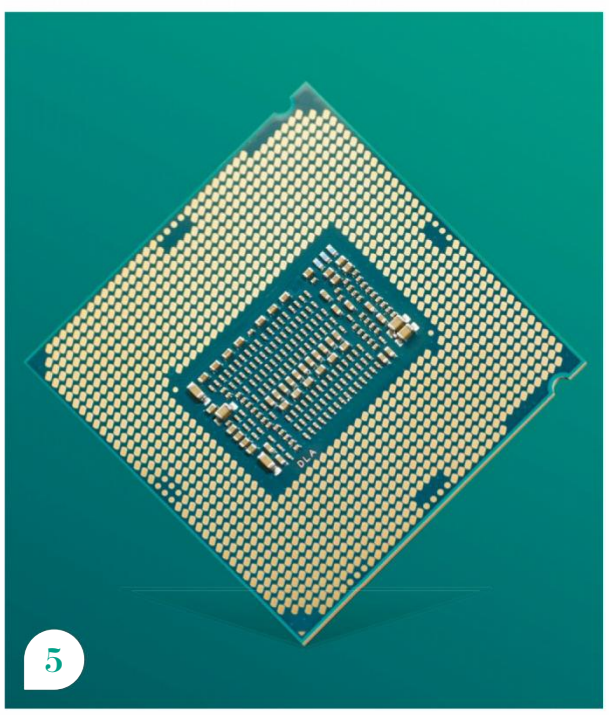
As a pure gaming CPU, the 3700X is good, and is one of the best buys right now. As with the 3900X, overclocking clockspeeds are relatively limited and PBO is the better solution, but memory tuning can potentially make a bigger difference.

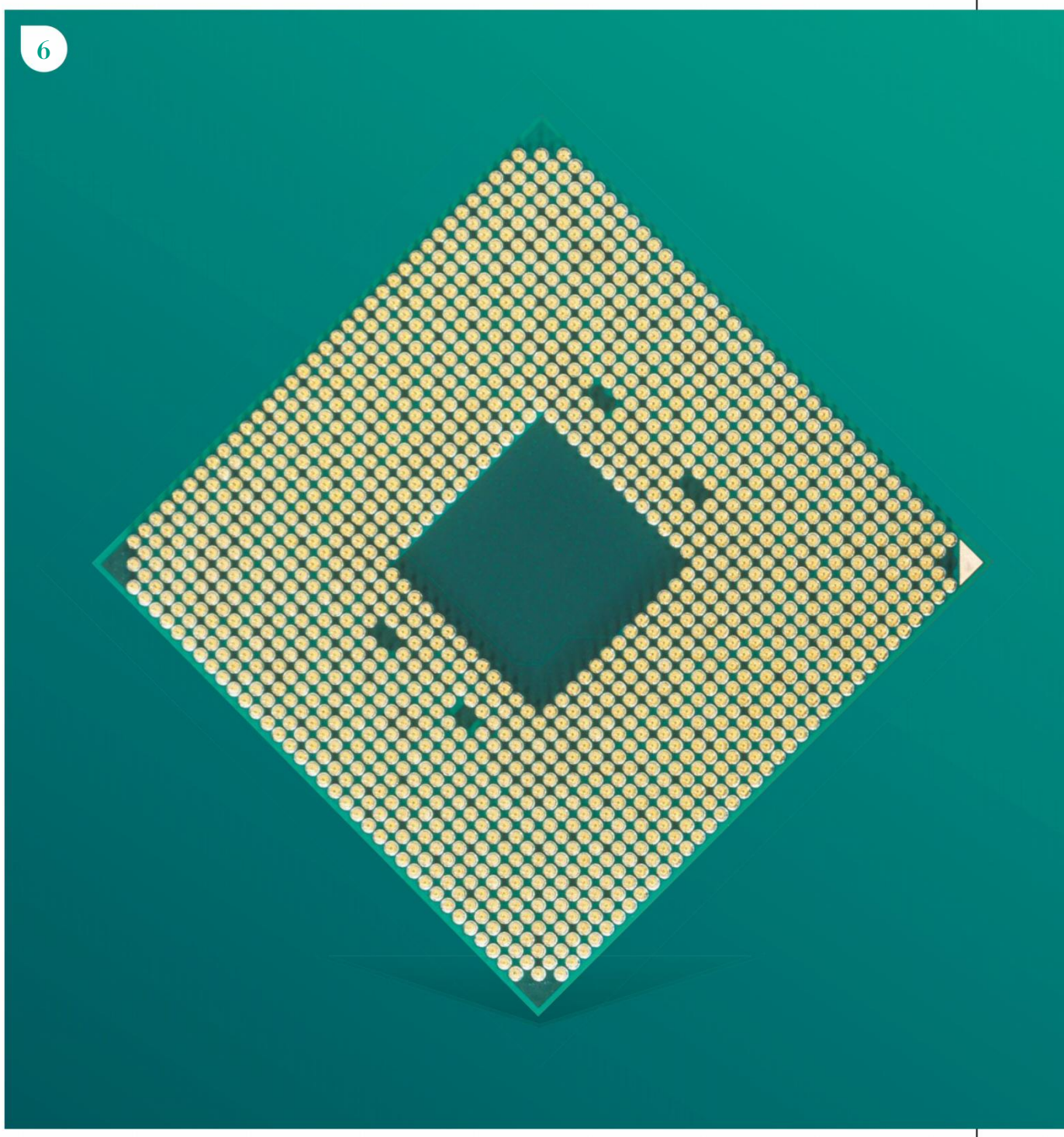
PC GAMER VERDICT

- ⊕ Excellent value vs performance
- ⊕ Good Wraith Prism cooler included
- ⊖ Not quite level with 9700K in games
- ⊖ Limited overclocking potential

SPECS CORES: 8 / **THREADS:** 16 / **BASE CLOCK:** 3.6GHZ / **TURBO CLOCK:** 4.4GHZ / **PCIE 4.0 LANES:** 16







Core i5-9400F

INTEL £140

A great budget-friendly option

5 This is an interesting option. It's slightly faster than the previous gen Core i5-8400, but ditches the integrated graphics completely. That's not a problem for games, as you'll almost certainly be wanting to use a discrete GPU. Overall, it's an excellent budget-friendly choice that doesn't cost much more than a Core i3 part.

There are other compromises, like the locked multiplier – no overclocking here. But you can save money and grab a cheaper H370 motherboard. At least you get a cooler in the box. Most boards will happily run the 9400KF at 3.9GHz as well, so don't worry about the low base clock.

While the i5-9400F may not be as fast as other CPUs in multithreaded tests, in our gaming suite it's basically tied with AMD's 3900X. Future games may start to push beyond its six-core capabilities, but probably not before you're ready for an upgrade. Right now, the i5-9400F is plenty fast and extremely affordable.

PC GAMER VERDICT

- ⊕ Affordable performance
- ⊕ Cooler included in box
- ⊖ No overclocking
- ⊖ Only six cores, no Hyper-Threading

SPECS CORES: 6 / **THREADS:** 6 / **BASE CLOCK:** 2.9GHZ / **TURBO CLOCK:** 4.1GHZ / **PCIE 3.0 LANES:** 16

Ryzen 5 3600

AMD £180

A reliable mid-range CPU

6 The Ryzen 5 3600 is slightly behind the 3900X when it comes to gaming and other tasks, but it's typically a five percent difference or less. It's a midrange CPU, so we seriously doubt anyone is planning on pairing it with an RTX 2080 Ti. A better choice would be a GPU like the RX 5700, or even the previous generation RX 590. Either way, the 3600 won't hold you back.

You still get a six-core/12-thread processor, and outside of games the 3600 is about 40 percent faster than Intel's 9400F. But then, the 3600 also costs more. It has the other benefits of AMD's Zen 2 architecture, such as PCIe Gen4, and AMD's CPUs also have far fewer issues with side-channel attacks like Meltdown, giving you some peace of mind as far as security goes.

There's also a 3600X, a small step up in performance for £50 more, but the vanilla 3600 can overclock a bit better, effectively matching its more expensive sibling. Fast memory with tight timings helps performance.

PC GAMER VERDICT

- ⊕ Low price for 6 core/12 thread CPU
- ⊕ Very secure and reliable
- ⊕ Good pairing with AMD GPU
- ⊖ Not the best for high-end gaming

SPECS CORES: 6 / **THREADS:** 12 / **BASE CLOCK:** 3.6GHZ / **TURBO CLOCK:** 4.2GHZ / **PCIE 4.0 LANES:** 16

MUSHROOM MACHINES

How a professor is creating a building full of fungal sensors

Previously on these pages we've looked at advances in quantum computing and the use of carbon nanotubes to build processors. This month we're stepping further off the path of the conventional than ever before. Yes, we're going to Bristol.

The University of the West of England will teach you a degree course in anything from accountancy to ecology, but is also home to the Centre for Unconventional Computing and its professor. The single photograph that features on the centre's website features a toilet roll, a headless skeleton, a fume cupboard, a mechanic's toolset, oscilloscopes and, disappointingly, only two actual computers. There's a white lab coat thrown over a chair, it's that sort of place.

The centre was set up by Professor Andrew Adamatzky in 2001 "as a response to an urgent need to develop computers for [the] next century", and designs new computing techniques and architectures using physical, chemical, and biological media. They're also interested in the kinds of massively parallel architectures we're starting to see in supercomputer GPUs and the chips that are needed to run a self-driving car.

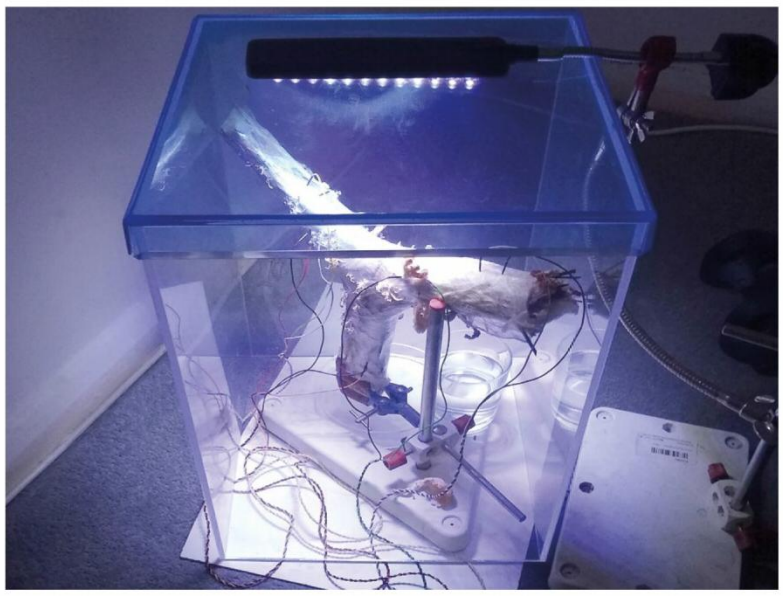
But wait, did that say *biological* media? As in Existenz-like flesh pods capable of playing VR games? Not quite. Among the biological media used in the centre's experiments is the slime mould, Physarum, and the oyster mushroom, which exhibits some interesting properties. "Spikes of electrical potential propagate along mycelium networks," says Adamatzky. "When two spikes collide at a junction in the network, they can annihilate, reflect, or produce a third spike. Thus they implement Boolean logic functions. So each junction of a mycelium network is a computing element, and there are hundreds of thousands of these computing elements in one square metre of the substrate."

Let's unpack that a little. The mycelium, despite what you may have learned from Star Trek Discovery, is the vegetative part of a fungus colony. The mushrooms we leave on the side of our plates in restaurants are the fruiting bodies, designed for reproduction. Mycelium colonies can be huge – the largest living thing on Earth is one, a honey fungus measuring 2.4 miles across in the Blue Mountains of Oregon that could be over 8,000 years old. Boolean logic functions are the logical operations, taking one or more binary inputs and giving a binary output, that we see in the transistors that make up our CPUs and all the other chips that make up a PC.

The measurement of electrical activity in fungi is achieved quite simply, by inserting electrodes into their flesh

The Blob

Physarium also has the honour of being the first single-celled organism to be on display in a zoo – the Parc Zoologique de Paris. While it might look like a bright yellow growth on a tree, the slime mould is really a collection of cell nuclei that can grow several feet in diameter. And despite not having a brain, it can solve mazes, choose the most nutritious food when presented with several, reform itself within minutes if split in two, and even display a kind of memory. It has 720 sexes.



FAR LEFT: This tree-like mould is filled with growth substrate and oyster mushroom spores. Once the fruiting bodies appear, measurement of electrical activity can begin.

LEFT: An attempt to measure the electrical activity of tinder mushrooms in field conditions.

UNCONVENTIONAL COMPUTERS *Mankind has tried to automate calculations for thousands of years*

Photo by Stefan Kühn, CC BY-SA 3.0

1 STONEHENGE

The neolithic equivalent of a Psion Organiser, Stonehenge isn't much use for anything except knowing the date of the solstice, and the only *Crysis* it knew was the Bronze Age Collapse.

Photo by David R. Tribble, CC BY-SA 3.0

2 ABACUS

Appearing as long as 4,700 years ago, the abacus was probably invented in Sumer, modern Iraq, to carry out addition and subtraction in the base-60 number system.

Photo by Marsyas, CC BY-SA 3.0

3 ANTIKYTHERA MECHANISM

A 2,000-year-old analogue computer used to calculate the positions of stars and eclipses, the mechanism's 30 bronze gears were pulled out of the Aegean Sea in 1901.

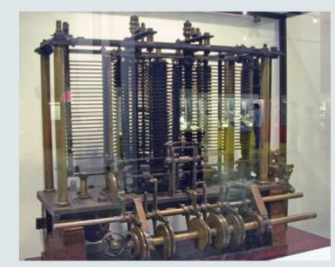


Photo by Bruno Barra CC BY-SA 2.5

4 ANALYTICAL ENGINE

A proposal by Charles Babbage, first described in 1837 but not built, this computer used punched cards to store programs, and had memory capable of storing up to 1,000 40-digit numbers.

MUSH-RAM

There's rather more to it than just replacing the silicon pathways of a microchip with specially grown mycelium however. The networks have properties of their own, and Adamatzky has received European Commission funding to run them throughout a building, turning it into something that can react to its surroundings. "Fungi sense everything as humans sense, and much more," says Adamatzky. "Keep in mind that fungi were the first ever living creatures on Earth. So we all originate from fungi. The buildings made with fungi will be intelligent buildings, they will be able to sense, make decisions based on what they sense and also somewhat interact with their environment and inhabitants."

Known as FUNGAR, this means that fungi grown inside the building will act as a sensor detecting changes in light, pollutants, and temperature, and computers will analyse the information. When changes are recognised, the system will have the potential to respond by controlling connected devices such as lights and heaters.

"If successful, the building as a whole will be able to recognise lighting levels, chemicals in the environment, the presence of people, and will respond to touch," says Adamatzky. "Acting as a massively-parallel computer, the building will control devices depending on the environmental conditions. For example a warning light could be lit if high levels of air pollution were detected or inhabitants could be warned about high or low temperatures. It's our vision for an alternative version of a smart home."

"THE BUILDINGS WILL BE ABLE TO SENSE AND MAKE DECISIONS BASED ON WHAT THEY SENSE"

But away from FUNGAR the UWE lab manages to squeeze remarkable behaviour out of simple life forms. Self-repairing smart wires, for example. Imagine you have two pins you want to bridge with an electrical connection. By placing a blob of slime mould on one, and an attractant – some food – on the other, the mould can be induced to bridge the pins with a protoplasmic tube, which can conduct electricity, and silicon oil is used to insulate it from the rest of the system. If you cut the tube its ends can merge together and restore the pathway within a few hours. By using strategically placed oat flakes – a slime mould's favourite food – and salt or electrical fields, which it doesn't like, you can guide the formation of a network of tubes. Then you can seed the network with nanoparticles of gold, which are left behind when the mould dies off, leaving conductive pathways that follow the mould's route.

These are real experiments that may have real results when the three-year FUNGAR project is finished. Adamatzky came to research the electrical properties of slime moulds largely through curiosity and wanting to study, "the acquaintance of information, the recognition of stimulatory spaces, sensing, decision mapping, learning, reasoning, and showing emotional states in chemical and physical substrates, and living creatures without a nervous system."

And as Adamatzky wrote in the preface to the journal Advances in Unconventional Computing, "What is unconventional today will be conventional tomorrow." That was in 2016. Tomorrow is almost here.

Ian Evenden

YOUR NEXT PC

BUYER'S GUIDE

Build the best PC for your budget

KEY

Budget build

PC gaming is for everyone. Pick the parts you want to build a new, well-rounded PC for a good price.

Mid-range build

You want to run every new game at 1080p 60fps. This recommended build will see you through.

Advanced build

You're looking for the best PC on the market and superior components. But you still want to spend smart.

BUDGET BUILD

Enjoy 1080p gaming without breaking the bank

TOTAL

£1,160

MOTHERBOARD

B360M-HDV

ASRock **£69**

ASRock's B360M board definitely qualifies as 'no frills', but it'll still get the juice out of your CPU without bottlenecks.

PROCESSOR

Core i3-9100f

Intel **£77**

An incredibly nippy quad-core CPU for the price, Intel's 9th gen budget chip skips integrated graphics for affordability.

GRAPHICS CARD

GeForce RTX 2060 GAMING

EVGA **£330**

Compact, great value, and part of NVIDIA's latest GPU generation, this EVGA model is the budget gamer's best friend.

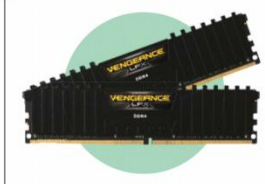
COOLER

Hyper 212 Evo

CoolerMaster **£28**

Even a budget build can benefit from a good CPU cooler, letting you enjoy a quieter, cooler system.

MEMORY



Vengeance LPX 16GB

Corsair **£69**

16GB of RAM gives you plenty of breathing room when running multiple programs, and Corsair's selling this kit cheap.

POWER SUPPLY

CX-M Series CX550M

Corsair **£68**

A UK price spike in our previous EVGA 500W pick opens the door for this quiet Corsair option.

SSD

MX500 250GB

Crucial **£50**

Crucial's SSD range is fantastic value and offers good performance, too. A 250GB drive can hold your OS and essential programs.

HDD

WD Blue 1TB 7200RPM

Western Digital **£38**

One terabyte of old-fashioned hard storage is the perfect home for all of your media, backups and storage-hungry games.

CASE

Neos

Bitfenix **£39**

The Neos provides decent airflow, good support for 3.5-inch hard drives, and a fairly painless build experience.

DISPLAY

NEW ENTRY

Optix MAG271C

MSI **£250**

MSI packs huge value into this. You will have to start blaming your k:d on your broadband instead of your refresh rate though.

KEYBOARD

NEW ENTRY

BlackWidow Lite

Razer **£80**

Silent and deadly as its namesake, this BlackWidow board from Razer is a joy to type on. No number pad though, be warned.

MOUSE

Rival 110

SteelSeries **£25**

A great sensor, simple design and impressively low price make this a great entry-level gaming mouse.

HEADSET

HS35

Corsair **£37**

Deceptively luxurious for the price, Corsair's budget cans offer comfort and powerful low-end. Also colours. Very bright colours.

MID-RANGE BUILD

Our recommended build for playing the latest games

TOTAL

£1,632

MOTHERBOARD

Prime Z370 A II
Aus **£125**

Great shielding, full of features, and featuring that – ahem – all important RGB lighting, this is a fine Asus board.

PROCESSOR

Core i5-8600K
Intel **£259**

Six cores, six threads, good out-of-the-box clock speeds – and it's overclockable. No performance bottlenecks with this installed.

GRAPHICS CARD

GeForce RTX 2060 Twin Fan
Zotac **£330**

Serious power from the 'just about affordable' end of Nvidia's new GPU fleet, and it's ray tracing-ready too.

COOLER

Hydro Series H55 Quiet Edition
Corsair **£55**

Tidy and quiet, the H55 will unlock our CPU's overclocking potential and look good through your case window while it does so.

MEMORY

Vengeance LPX 16GB (2x8GB) @2666
Corsair **£69**

16GB is the minimum amount of RAM we'd recommend for a system of this calibre.

POWER SUPPLY

CX 650W
Corsair **£62**

It may not feature fancy modular design, but Corsair's reliable CX 650 is cheap enough to accommodate for our other part picks.

SSD

Evo 860 250GB
Samsung **£50**

Samsung's Evo series has long been a stalwart of nippy r/w speeds and reliability, and this 250GB drive is very affordable.

HDD

WD Blue 1TB 7200RPM
Western Digital **£38**

SSDs are great, but they're still far from cheap. This 1TB HDD will hold as many games as you will need.

CASE

Eclipse P400S TG
Phanteks **£70**

The clean lines, intuitive build features and fantastic price cements the Eclipse as our mid-range case of choice.

DISPLAY

NEW ENTRY

Predator XB271H
Acer **£350**

G-Sync and up to 180Hz of overclocked refresh rate – Acer's 27-inch Predator is quicker than a S1mple AWP peek.

KEYBOARD

One
Ducky **£110**

A lesser known keyboard brand with a great rep among mechanical switch nerds. Ducky delivers the goods with the One.

MOUSE

G502 Proteus Spectrum
Logitech **£49**

Logitech's revered G502 is comfortable, adjustable, and precise. Also 'Proteus Spectrum' sounds like a *Halo* map.

HEADSET

HyperX Cloud
Kingston **£65**

Despite the budget price, we recommend this headset. There's simply nothing better for the money.

ADVANCED BUILD

Go above and beyond with a PC powerful enough to end worlds

TOTAL

£3,897

MOTHERBOARD

Strix X470-F Gaming
Asus **£180**
Get the most from the new AMD Ryzen 2700X with this matching X470 motherboard that's packed with features.

PROCESSOR

Ryzen 7 3800X
AMD **£380**
AMD continues to tear it up at the top-end of the CPU market, and this 8-core, 16-thread monster laughs at the word 'bottleneck'.

GRAPHICS CARD

GeForce RTX 2080Ti Black Edition
EVGA **£1,113**
EVGA's custom design is considerably cheaper than Nvidia's reference card, and with great cooling.

COOLER

Kraken X62
NZXT **£100**
The Kraken is the culmination of three of our favourite things: an infinity mirror, a 280mm radiator and slick braided cooling.

MEMORY

Ripjaws V 32GB @3200
G.Skill **£172**
G.Skill is always a safe bet for lightning fast RAM, and if you can do without the RGB frills this 2x16GB set will treat you right.

POWER SUPPLY

HX750i 80 Plus Platinum
Corsair **£151**
Modular, custom cable kits, and a platinum efficiency rating. What's not to love about this Corsair PSU? Nothing, that's what.

SSD

XPG SX8200 Pro 1TB
ADATA **£114**
A whole terabyte of M.2 storage with blistering read/write speeds, just waiting to be filled with Steam games you'll never play.

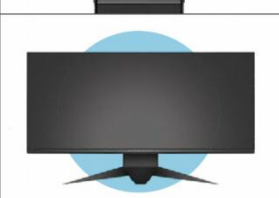
HDD

WD Blue 4TB
Western Digital **£96**
With a large boot SSD, there's little need for a large, cheap SSD. Instead we've opted for a huge 4TB hard drive for all your bulk data.

CASE

Enthoo Evolv ATX TG
Phanteks **£180**
The 5mm thick aluminium panels resonate with svelte professionalism, and the interior makes building inside this a dream.

DISPLAY



AW3418DW
Alienware **£780**
34 inches of curved, beautifully presented 120Hz display with the added benefits of G-Sync. One for aesthetes and athletes alike.

KEYBOARD

G915 Lightspeed
Logitech **£210**
Those low-profile keys feel like taking your fingers figure-skating. It's wireless too, so that's the cable jam dragon slain.

MOUSE

G502 Lightspeed
Logitech **£91**
The Lightspeed is the very latest edition of Logi's loveable G502, and while it might look familiar nearly all internal parts are new.

HEADSET

GSP 670
Sennheiser **£330**
Sennheiser's first wireless gaming headset shoots for audiophile territory with great control placement and 16 hours of battery.

EXTRA LIFE

CONTINUED ADVENTURES IN GAMING

"It's rare to see such commitment to story in a 4X game"

Amplitude's next game *Humankind* should retain the storytelling of **ENDLESS LEGEND**

I'm deep into a campaign in *Endless Legend*, the strange and mesmerising fantasy 4X game from Amplitude Studios. In my campaign, global power dynamics have been solidified for centuries. The Cultists – mannequin-like beings that assimilate and enslave lesser peoples – are spreading their mysterious teachings, while the regal Drakken can be seen as the self-described 'goodies', gaining power through science, knowledge and trade agreements.

But behind the scenes I, as leader of the Roving Clans, am exerting soft power through that barely visible force of economics. I control the global marketplace, deciding who gets to be part of it, and taking cuts of every market transaction. I'm accruing wealth beyond measure while others tumble around with wars and politics, and am closing in on a satisfying economic victory.

When *Endless Legend* came out in 2014, it shook up the genre. It followed 2012's cosmic 4X game *Endless Space*, continuing to build the 'Endless' mythology typified by a bizarre mix of fantasy factions with aggressively different playstyles, RPG elements, and a sense of wonderment evoked through excellent writing.

In each playthrough, you'll come into contact with dozens of minor factions, each with their own backstories and desires that you can help fulfil through sidequests, or overrule by simply destroying them.

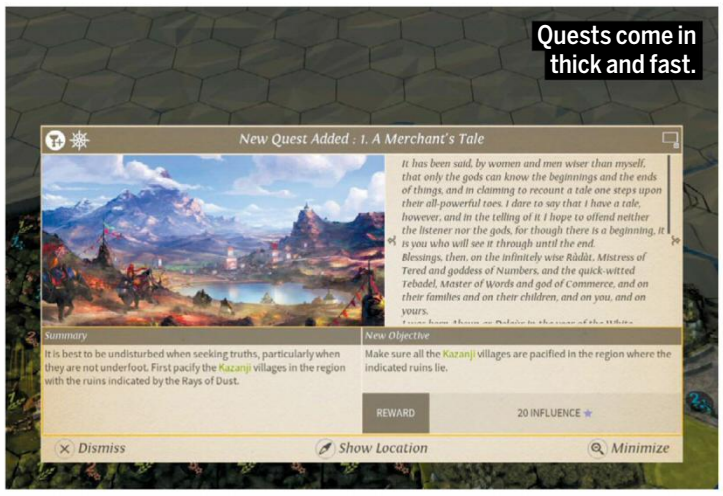
It's rare to see such commitment to story in a genre that's synonymous with the *Civilization* series, where the centuries-long race towards one of

ALONG THE WAY IT PULLS YOU INTO A THOUSAND LITTLE TALES

ROBERT ZAK

THIS MONTH
Bought low and sold high.

ALSO PLAYED
Bloodstained: Ritual of the Night



five victory conditions has become rather rote; mystery and wonder replaced by a cold, optimised surge towards a prescriptive conclusion.

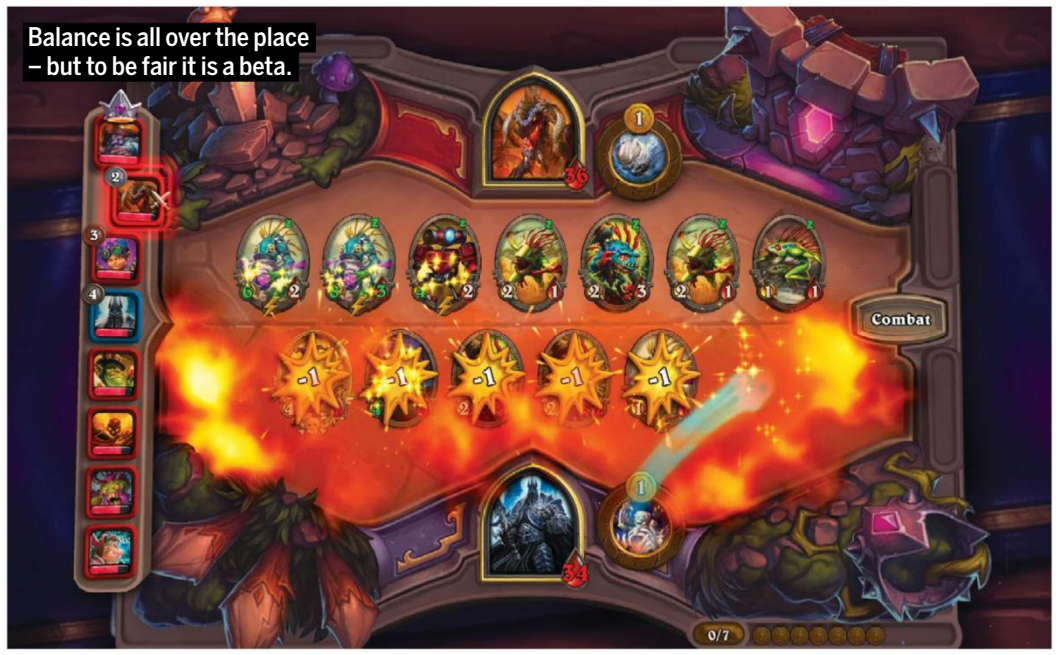
Endless Legend is still partly tied to this lineage, adding a 'story' victory type to the usual suspects of science, economic, diplomatic and elimination ones. But along the way it pulls you into a thousand little tales that make each game feel like so much more than a race to the finish line.

STORYTELLING MAGIC

As Amplitude works on *Humankind*, its history-spanning 4X game that's set to be the studio's first direct rival to the incumbent *Civilization*, I'd love to see the game retain some of that storytelling magic.

That narrative flair could, for example, be used in the early game to show how ancient people tried to make sense of the world's mysteries. Storytelling, superstition and myth were integral to early civilisations, and *Endless Legend* demonstrates how well these things can complement a 4X game.

Humankind is unfettered by the expectations associated with a long-running franchise like *Civilization*, and shouldn't be afraid to pluck some ideas from *Endless Legend*. Such a lift from Amplitude's own past would be a fitting addition to a game interested in exploring how old cultures never fully disappear, but continue to quietly influence those that replace them. ■



"It's fun to win but boring to lose"

Escaping HEARTHSTONE's Battlegrounds mode

ROBIN VALENTINE

THIS MONTH
Created some truly filthy Nightmare Amalgams.

ALSO PLAYED
Disco Elysium, *Yaga*

Of all the genre phenomenons to rise over the last decade, auto battlers are the most baffling yet. Not only impossible to explain to anyone who hasn't played one, the likes of *Dota Underlords*, *Autochess* and *Teamfight Tactics* are also reliant on players being fluent in the characters and conventions of another existing game to have even a hope of getting started.

As editor of the world's leading PC gaming magazine, it was a source of some embarrassment that I'd failed to make that leap myself. *Hearthstone*'s new Battlegrounds mode was at first, then, a great relief – finally the genre comes to a game I not only already know well, but that deals in accessibility and clarity more than almost any other.

Doing away with much of the genre's complexity, Battlegrounds reduces the concept to essentially just buying minions to build teams with the best synergies you can manage, and watching them automatically scrap. It quickly becomes obvious that the familiar 'tribes' are the most important element – when Murlocs, Beasts, Mechs, or Demons are grouped together, they enhance each others' abilities.

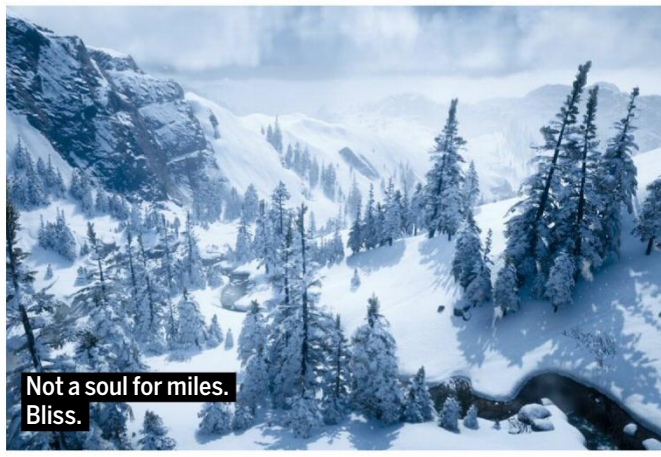
Within my first match, I'm hooked. The simplified strategy still boasts enough little decisions moment-to-moment to be enthralling, and when your tactics pay off it's deeply satisfying.

SAME AGAIN

But before long I realise I'm experiencing all the same problems I had with *Hearthstone* in accelerated microcosm. Like the main game, it's fun to win but deeply boring to lose. Randomness is a huge factor, giving newbies more chance at an exciting victory but diminishing any sense of actual control over events. A few key combos rule over all, crushing the meta into a narrow band. And, thanks to long pauses between rounds, I find myself spending as much time checking Twitter as I am deciding team comps.

Just a few days after I first dipped my toes, I already feel like I'm wasting my time, a pathetic victim to Blizzard's addictive design. It's a feeling I know well – it took me years to realise how little fun I was having in Hearthstone and break away. Can't fool me again, you lot. But I have to thank Battlegrounds for finally letting a knucklehead like me understand auto battlers. Maybe one day I'll even play a grown-up one. ■

Make sure you wrap up warmly.


Not a soul for miles. Bliss.

"Just watch out for the bears, because they will eat you"

Rambling in the frozen north of RED DEAD REDEMPTION 2

Travel to the far north of *Red Dead Redemption 2*'s vast open world and you'll eventually find yourself in the Grizzlies: a chain of blizzard-battered mountains crawling with bears and dotted with snowy forests. There are a lot of beautiful places to explore in Rockstar's Wild West, from the bustling St Denis to the plains of the Heartlands. But it's those cold, isolated Grizzlies, in all their beautiful bleakness, I find myself returning time and time again.

Even in the most remote parts of the countryside you'll find traces of people, whether it's a hunter setting up camp or a passing stagecoach travelling between towns. But when you're up there in the Grizzlies it's just you and the landscape, which makes it one of the most atmospheric places in the game. Trudging through fresh white snow, listening to the howl of the wind in the trees and the distant call of animals, it's utterly transporting. A lonely void miles from the nearest settlement, immune to the creep of civilisation. It's complete heaven for a sad cowboy.

ANDY KELLY

THIS MONTH
Escaped civilisation in the freezing Grizzlies.

ALSO PLAYED
Tetris Effect

I also like the ritual of selecting an appropriate outfit for a trip to the Grizzlies. You won't freeze to death up there – *Red Dead*'s survival simulation isn't that deep, unfortunately – but you do get cold, which negatively affects your stamina. So before you ride north it's best to grab a cosy, fur-lined coat from your horse or camp to keep the chill away. This reinforces the idea that you're journeying somewhere dangerous and inhospitable.

You'll know you're getting close to the mountains when you see plumes of breath escaping from Arthur's mouth and the green slowly giving way to a sheet of white.

THIS REINFORCES THE IDEA THAT YOU'RE JOURNEYING SOMEWHERE DANGEROUS

When I'm up in the Grizzlies I like to turn the music off, put on a pair of good quality studio headphones, and lose myself in the ambience. *Red Dead Redemption 2* is a gorgeous game, no doubt, but the sound design does a lot of the legwork too. You can almost feel the cold as you move through the environment, clumps of snow falling from trees when you brush past them, ice cracking and warping as you walk over frozen lakes.

MOUNTAIN TIME

But as an escape, and a way to literally get away from it all, the Grizzlies is a remarkable expanse of rugged, but serenely beautiful, country. The volume of things to do in *Red Dead Redemption 2* is impressive, and I don't just mean missions, hunting, or other prescribed activities.

The fidelity of the world is such that you can kill a few hours just wandering aimlessly, doing nothing in particular, soaking up the atmosphere, seeing what you stumble into on your way. And nowhere is this kind of rambling more evocative and immersive than in the Grizzlies. Just watch out for the bears, because they will eat you. ■

"I wish I could load a rocket with melted cheese"

Searching for the kitchen aboard a beleaguered spaceship in CATASTRONAUTS

I fire the missiles on this spaceship. It's not as complicated as it sounds. Sometimes I just press the big red button and watch the cannon kick back as the laser fires. Other times I have to hold the button down first. If it's a really hard day, you'll find me lugging volatile rockets to the arming station, before loading them into the launcher. After that, though, it's buttons again.

Don't get me wrong, I'm not tired of watching alien fighter craft explode. It's just that, sometimes, I wish I could load a rocket with melted cheese, or serve it on a bed of rice.

I should explain: *Catastronauts* is an *Overcooked* reskin that relocates the running around to, essentially, the Starship Enterprise. Your working environment exists in a perpetual state of crisis: as much as you'd like to fire salvo after salvo at your enemy, you'll often have to prioritise fixes to a hull that threatens to tear apart, or put out fires in the medical bay (somewhere back on Earth, a kitchen is missing its fire extinguisher).

Like *Overcooked*, *Catastronauts* is designed to make lulls in conversation impossible. While you and a fellow player might fall into complementary roles, either defending the ship or manning the guns, the operation would fall apart without regular communication. Often one of you is trapped in a doorless compartment which, if fire breaks out, can only be saved by a comrade sending the extinguisher over via teleporter. Some powerful guns, meanwhile, must be operated by two people firing alternately. And in later levels, med bay respawns require someone to buzz you back in, a little like *Left 4 Dead*'s broom cupboard rescues.

JEREMY PEEL

THIS MONTH
Finally lost his appetite for murder.

ALSO PLAYED
This War of Mine, Call of Duty: Ghosts

SOME POWERFUL GUNS, MEANWHILE, MUST BE OPERATED BY TWO PEOPLE

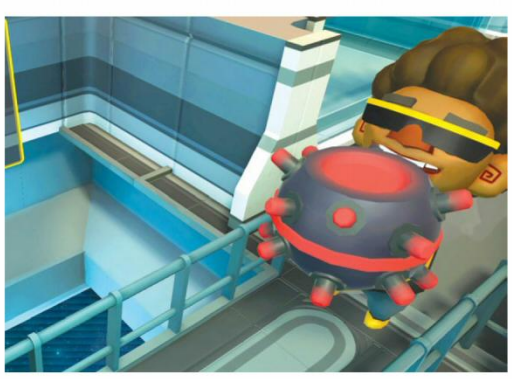
BIG GUN BUTTON

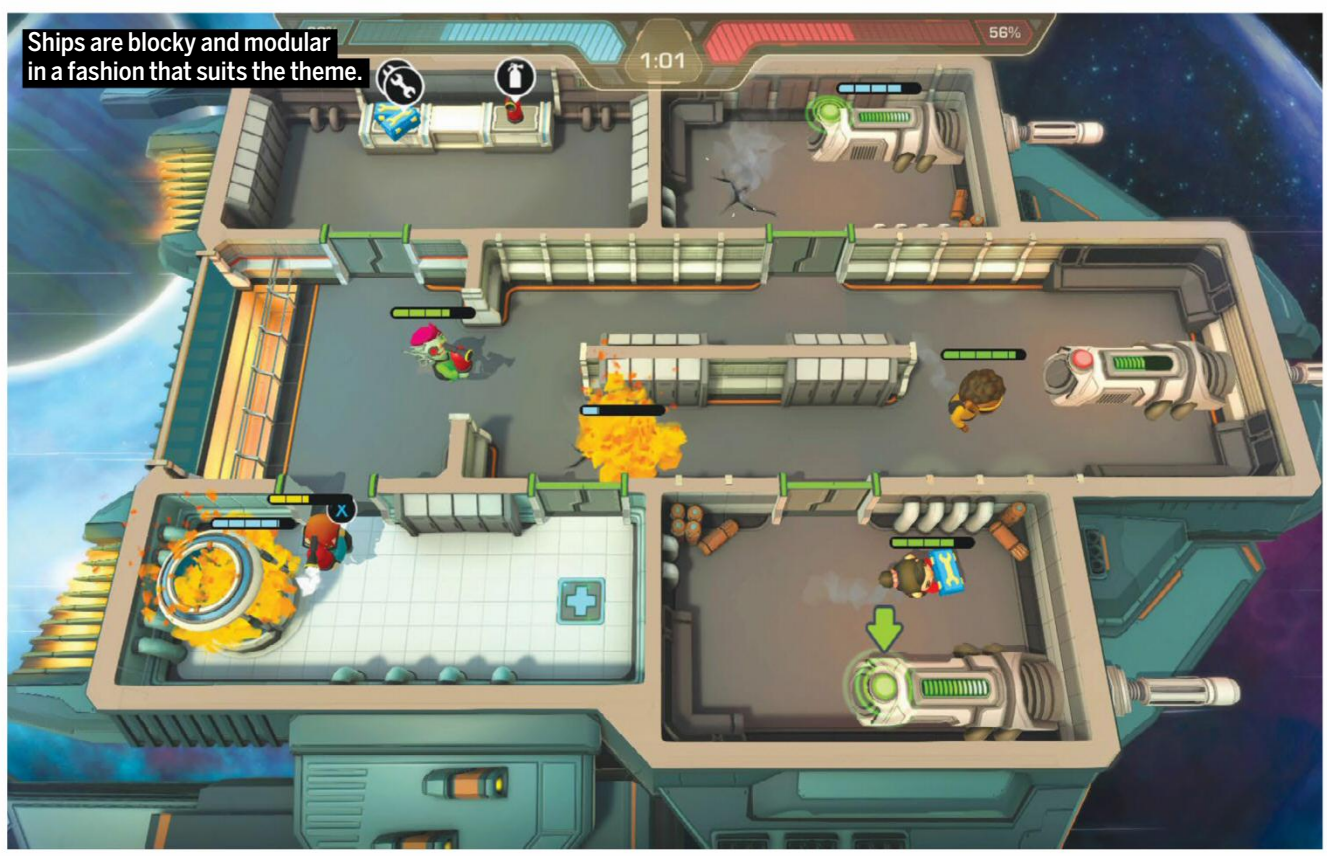
It's a philosophy that forefronts cooperation and makes clear just how rare it is, even in games supposedly built for co-op. Be honest: have you played *Destiny* or *Borderlands* with someone, or merely alongside them?

Catastronauts has plenty of meaningful ways to keep you talking, then. Where it falls down is the end goal. In *Overcooked 2*, I might be putting together a hotdog with ketchup – hold the mustard – plus halloumi fries and a luminous green soda. Once I've got my head around that, the next order could be a strawberry donut. It's not just the methods but the objectives that are constantly changing, and that complexity speaks to a higher level of my brain. It's the part of the game that leaves me near-delirious with concentration, washing dishes as I contemplate the orders board.

Odd though it is to realise, a simple change of setting has stripped away all of that variety. Though there are many ways to do it, in *Catastronauts* you're only ever firing a big gun. Cooking, by contrast, is endlessly engrossing – specific and demanding in the way that killing aliens just isn't. ■

The fire spreads, with lethal results. *Far Cry 2* has a lot to answer for.





Ships are blocky and modular in a fashion that suits the theme.

LEAGUE OF LEGENDS

How season ten is changing the Summoner's Rift. *By Steven Messner*

Riot's MOBA may have just turned ten years old, but its new *Rise of the Elements* update sure makes it feel new and exciting. And by 'exciting' I mean chaotic as all hell. First revealed during the *League of Legends* tenth anniversary celebration – where the developer also announced seven new games including an FPS and a card game – *Rise of the Elements* is one of the biggest shake ups to *LoL*'s Summoner's Rift in years, giving players even more opportunities for big plays and epic ganks.

Setting the stage for *League of Legends*' tenth competitive season, *Rise of the Elements* makes Summoner's Rift feel more dynamic and reactive both during the course of a match and across multiple games. It focuses almost entirely on the Elemental Drakes, a kind of secondary objective that periodically spawn in the lower middle of Summoner's Rift. Where Elemental Drakes used to just give minor buffs to the team that killed them – with the buffs increasing in power after killing successive Drakes – now each one can also unleash cataclysmic elemental storms that change the layout of Summoner's Rift over the course of each game.

Every time a third Drake spawns over the course of a match it'll alter the map according to its element. Each of these four effects are mostly contained within the jungle – the areas tucked between the three major lanes that dissect Summoner's Rift – but their potential to change the course of a match is huge.

NEED TO KNOW

RELEASE October 27, 2009	**DEVELOPER** Riot Games
PUBLISHER Riot Games	**LINK** leagueoflegends.com

The Inferno Drake, for example, will burn holes in the natural rock formations scattered around each jungle, opening up more pathways to traverse from point to point or outmanoeuvre enemies. If a Cloud Drake spawns third, though, wind tunnels will instead grant anyone who uses them a boost of speed so players can quickly move from lane to lane. My personal favourite is the Ocean Drake that spawns extra brush to hide in, adding vastly more options for setting up ambushes and punishing foolhardy players.

DRAGON SLAYER

Though Drakes have always been important to a team's success, the rewards for killing them weren't always worth the risk. Cloud Drakes, for example, merely gave a slight movement speed boost. But now they lower the cooldown of your ultimate ability when you attack enemies, encouraging players to get bloody and stay aggressive. Likewise, Mountain Drakes used to grant bonus damage to enemy towers and neutral monsters but now boost your defence and magic resistance instead.

Any team that kills four Elemental Drakes will also receive another powerful buff dependent on whichever drake they happened to kill the most. Possessing a Mountain Drake Soul will, for example, give your entire team a shield after not receiving damage for five seconds, while the Inferno Dragon Soul adds powerful explosions to your basic attacks every three seconds.

These new passive bonuses are nice, but nothing compares to the might of the new Elder Dragon. This extra powerful boss spawns at the 35 minute mark and used to deal damage over time to enemies you attacked. That effect is still in play, but now you'll automatically assassinate enemies when their health drops low enough – a terrifyingly powerful ability that can turn the tide of battle in an instant. Now teams that are clearly losing have a valuable way to swing a match in their favour if they can grab the Elder Dragon. Any fights against a team with this new buff will have to play it extra safe.

THE INFERNO DRAGON SOUL ADDS POWERFUL EXPLOSIONS

The other big change introduced in *Rise of the Elements* might seem inconsequential, but is just as scary as the reimagined Elemental Drakes. Now the top and bottom lanes each have a U-shaped alcove in the middle, giving players an extra mini side lane to fight over. Because sight into the alcove is blocked until you step into it, this opens up tons of new options for ambushes or clever retreats.

These changes might feel small but they're exactly what *LoL* needs going into its tenth season. With over 140 champions, there's already an extreme amount of variation in *LoL*, but I'm excited to see the map itself change from match to match. And who can say no to more ways to set up painful and embarrassing ganks on the enemy team? ■

WELCOME TO THE FAMILY *How Riot is expanding the* LoL *universe*

LEGENDS OF RUNETERRA
A new digital card game that forgoes booster packs and aggressive microtransactions.

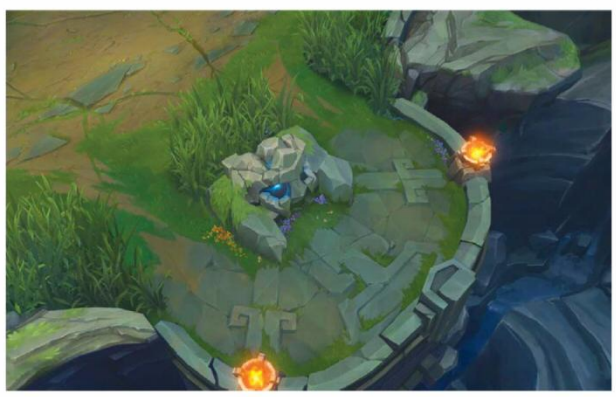
ARCANE
An animated TV series developed in-house at Riot that tells the origin story of two *League of Legends* champions.

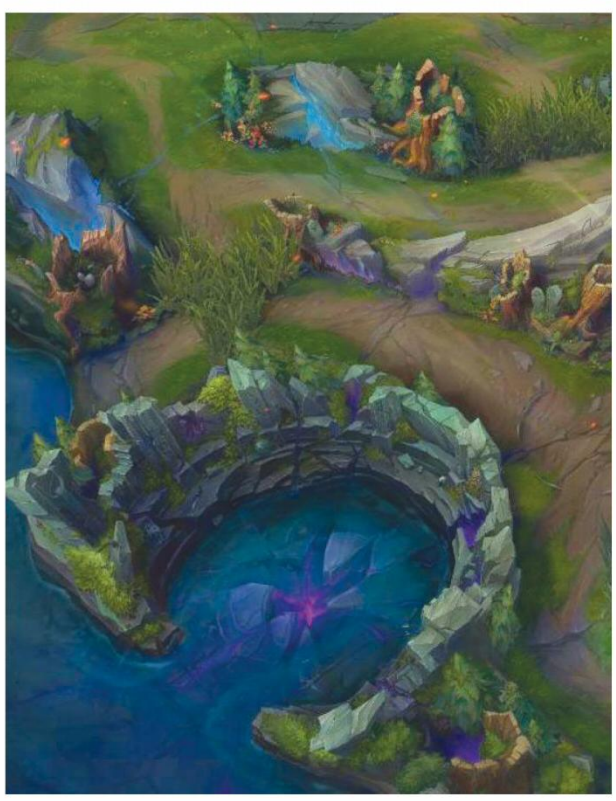
PROJECT L
A *League of Legends* fighting game developed by EVO's co-founder that probably won't be out for a good few years.

PROJECT F
Not much is known about this game other than it's meant to be multiplayer, but it sure looks like a *Diablo*-esque action RPG.

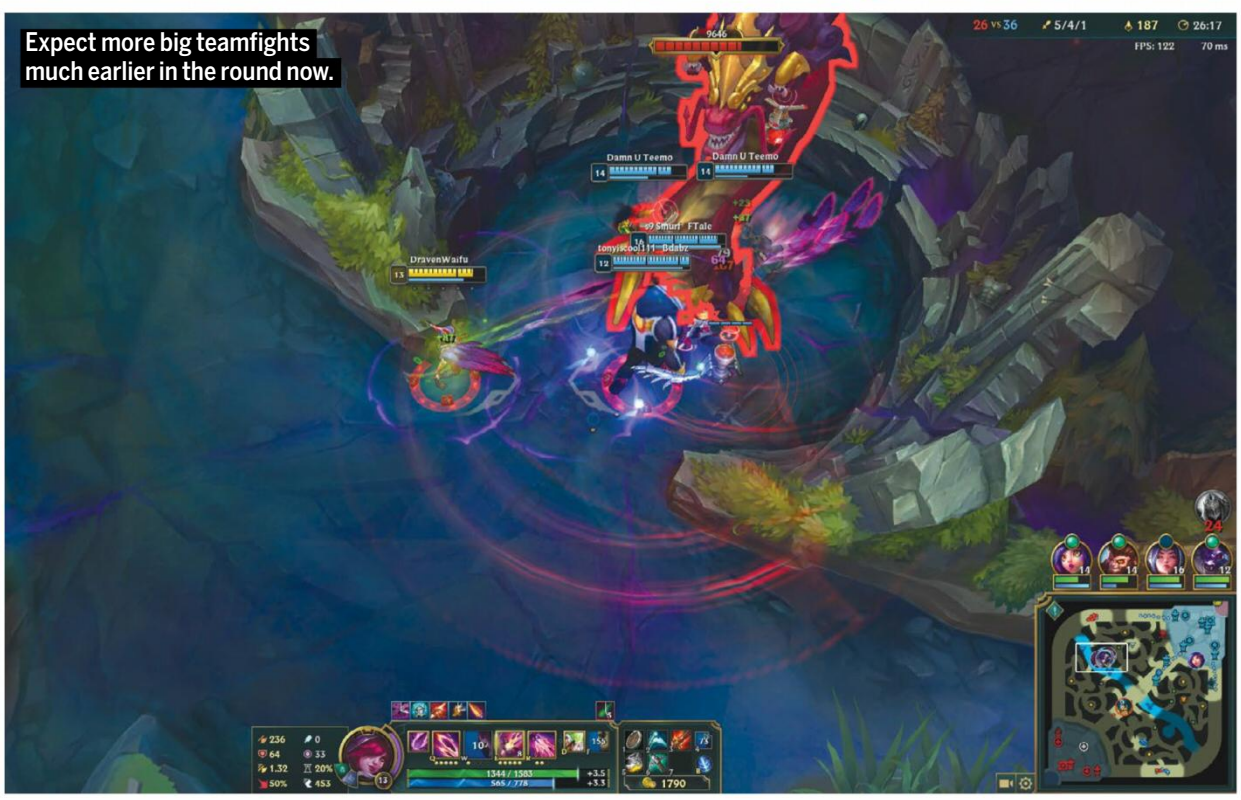
Run for the hills if the enemy team kills the Elder Dragon.

The dragon pit now changes depending on which Elemental Drake spawns.





Expect more big teamfights much earlier in the round now.



SURVIVE IN RED DEAD ONLINE

Painlessly embark on your online adventures on the American frontier. *By Harry Shepherd*

NEED TO KNOW

DIFFICULTY
Medium

TIME
Five hours

VITAL LINKS
Madam Nazar location:
bit.ly/2qKCk9L
Make quick money:
bit.ly/2qGgaph
Best horse:
bit.ly/33D1XrU

OPTIMISE FOR PC

1 Bask in the true glory of the Wild West now its moseyed its way to personal computers. Expand your field of view to fully drink in the rolling American plains and enable HDR as long as your monitor supports it.

YOU'VE BEEN FRAMED

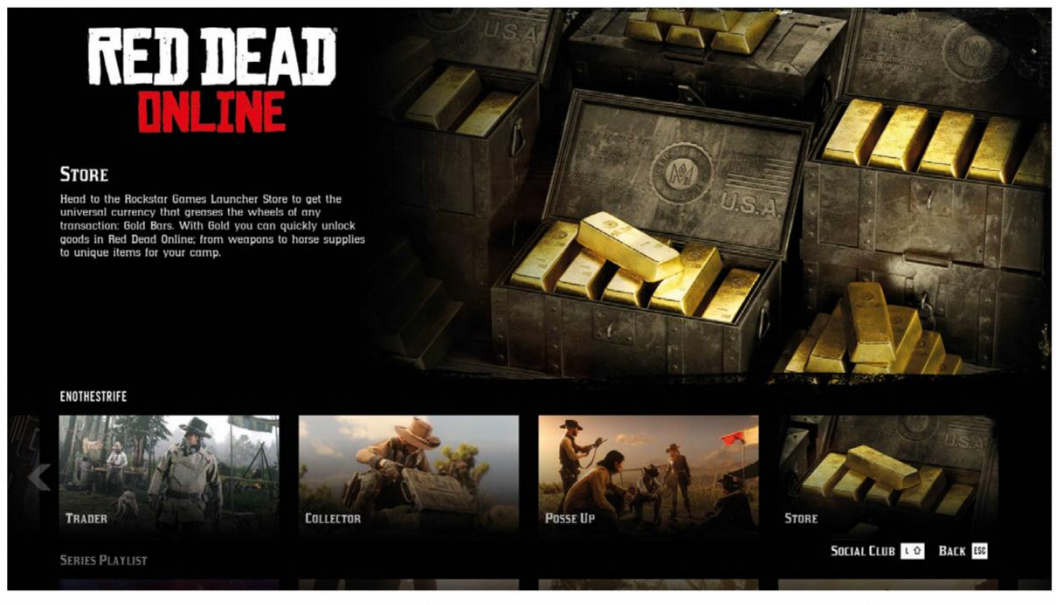
2 *RDR2* is demanding on your PC and its storage: you'll need 150GB of free space before you've even broken in your first bronco. Tweak your volumetrics, shadows and textures to ensure you get those sweet, sweet 60 frames.

REBINDING OF ISAAC

3 The default PC controls aren't great – head to key mapping at the top of the control settings screen to rebind. I recommend remapping slowing your horse from CTRL to Q and switching slo-mo Dead Eye from middle mouse to a side button.

LOADSA MONEY

4 Be the moneyed envy of your Western pardners the world over by taking part in PvP and nailing online story missions. Matches against real-life cowboys give you cash even if you finish last, for instance.



GOLD RUSH

5 Another way of making bank is by procuring Gold Bars. You can purchase them with real money, but it's possible to earn them. Get one by amassing 100 Gold Nuggets, which you get from story missions, PvP, and looting enemies.

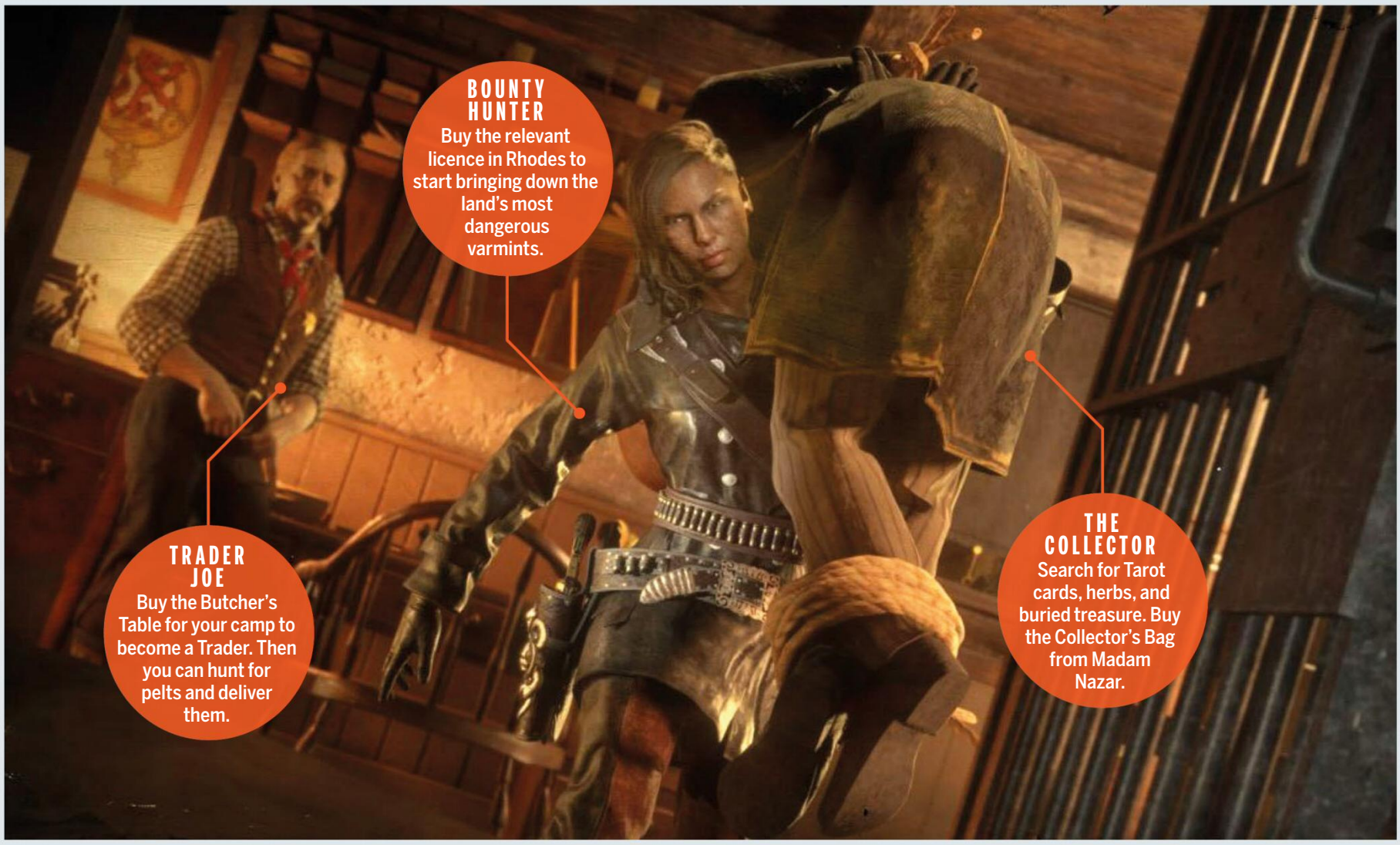
POSSE UP

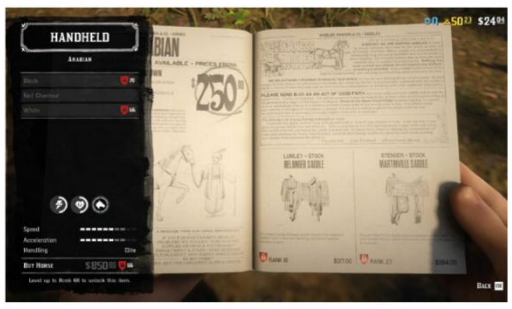
6 None but the most foolish of varmints will challenge a squad. Like Crews in *GTA Online*, you can form posses on a temporary or permanent basis. The banks and shop owners of the frontier won't know what hit 'em.

SAY CHEESE

7 All your gallivanting across the frontier totally didn't happen unless you have the pics to prove it. Equip it with your weapon wheel by hitting Tab to start sharing your visual artistry with the world.

ROLE CALL *Specialise your cowboy to maximise your rewards*



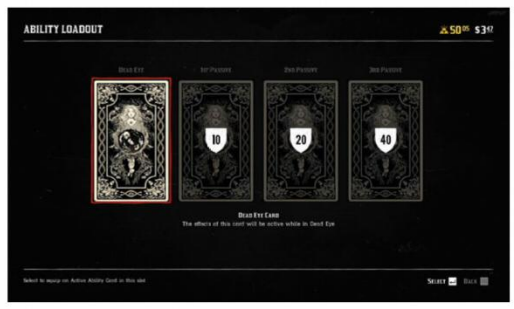


INTERNAL CATALOGUE

8 To restock your items you only need to reach into your back pocket. If you're looking for weapons, consumables and outfits for example, you can replenish your supplies from anywhere so long as you have the dosh.

COMPARE THE MARKET

9 You'll need to do some grinding to get a decent horse without spending real money. If you've done that, you'll want to protect your costly nag. Buy Horse Insurance from stables to prevent heartbreak if your steed carks it.



HOLD 'EM CLOSE

10 Ability cards work in a similar way to *Fallout 76*'s perks, and you should absolutely use them. You can swap them around whenever you like, so put together the best combination to suit your forthcoming activity.

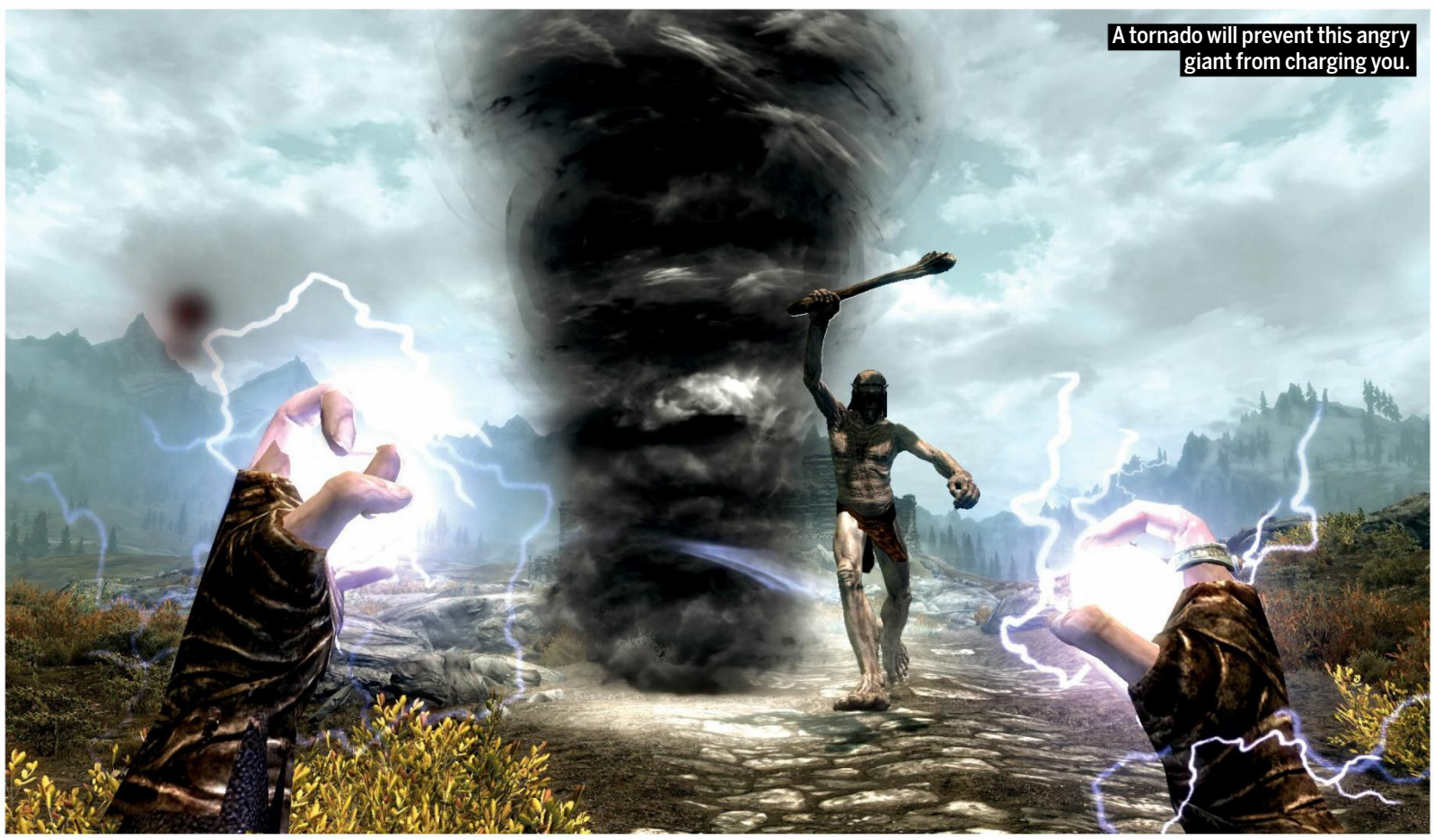
FRESHEN UP

11 If you played *RDO* on console, you may have had to start a new character if you wanted to change your look. No longer: hit the Free Roam menu, then Online Options and Change Appearance to do it.

CORE LEARNING

12 Keeping the cores that determine your health, stamina, and Dead Eye supply is harder relative to single player. Do that by gobbling and ensuring a ready supply of food and by sleeping.

Defeat the Invoker of the Ancients to gain his powerful abilities.


A tornado will prevent this angry giant from charging you.

ARCANUM: A NEW AGE OF MAGIC

Cast new spells in this *Skyrim* mod. *By Christopher Livingston*

Great spellcasting in a fantasy game requires three things: a wide selection of spells to learn and employ, amazing effects that make your spells feel powerful and otherworldly, and a creative and varied system that allows for a spread of different playstyles. I think vanilla *Skyrim* does a decent job with spells – they look pretty cool for 2011, there's a healthy amount of them, and you can combine them with stealth and steel to create the type of mage you want to play. But there's definitely a lot of room for improvement, and *Arcanum: A New Age of Magic* takes spellcasting to a higher plane of variety, power, and flexibility.

With this mod installed you'll be summoning pillars of energy and tornadoes from the heavens, flinging tremendous and explosive fiery orbs and deadly electrical lances, and even pulling meteors down from outer space and smashing them down onto your hapless enemies. Thanks to *Arcanum* you'll finally become a truly powerful spellcaster.

This isn't one of those mods where you simply install it and open your inventory to find a whole bunch of new spell tomes ready to be used. Even with *Arcanum* downloaded you'll still need to put in quite a lot of work to acquire the more than 100 new spells the mod introduces. Some spells you can buy from the usual magic vendors scattered around *Skyrim* – though it may require repeat visits if they don't have them in stock. Other spells are tied into custom quests and require defeating some tough bosses added by the mod. And there are also spells you'll need to create by hand at new magical crafting stations that now appear throughout the world. This drawn-out process of slowly acquiring your new powers makes *Arcanum* a great mod if you're starting a brand new playthrough of *Skyrim* – though it's still a good pick for characters with a few dozen hours under their belt too.

THANKS TO ARCANUM YOU'LL FINALLY BECOME A TRULY POWERFUL SPELLCASTER

ELEMENTARY

What's really interesting about the *Arcanum* mod is the different ways the elements of fire, ice, and electricity differ from each other. In vanilla *Skyrim* there's really not all that much difference between a fireball, a shock spell, or a blast of cold, but in *Arcanum* there's far more going on than just flames burning things and ice freezing things – the elements actually comprise wholly different styles of attack.

The fire spells, for instance, are meant as a fast, repeated, almost spammy attack. The magicka cost and casting time of fire spells are

SKY'S THE LIMIT

***Skyrim* is playable just about anywhere. Here's how it took over everything**

typically low, as you're meant to use them in rapid succession. In fact it's in your best interest to cast them as fast and often as you can while in combat. For instance one spell called Cauterize summons a fireball that does 50 points of damage to an opponent, but then begins to heal them for 100 points over the next few seconds. So if you're not quick enough to pummel them with another few rounds of Cauterize, you'll wind up facing a revitalised enemy. If you use it, you have to be quick and unrelenting. Some fire spells even stack buffs on you with each use, encouraging and rewarding you for a mass of rapid-fire attacks.

Ice magic, meanwhile, is more of a way to slow down, weaken, and debuff your enemies in groups with area effects that can soften them up for other, more focused attacks. These spells can't be used in the same spammy fashion as fire due to a higher magicka drain, but they can provide debuffs for frost resistance – which is incredibly helpful since so many durable northern *Skyrim* enemies shrug off frost damage.

Shock spells are great for doing large amounts of damage, but they cost a lot to cast and are typically more focused than AOE frost spells. Chaining electrical attacks is a big theme, with certain spells requiring activation by precursor spells. Plus there's sometimes the ability to increase the damage of your shock spells by sacrificing your own health in exchange. It's a risky move, depending on who or what you're fighting, but damaging yourself can pay off in the extra damage you'll deal to your foes.

It's a great system and works whether you want to focus on a single discipline – fire, ice, or shock – or take a handful of spells from each and use them alongside each other. If you drain your own health with shock spells to do more damage, the fire discipline includes healing spells you can use to offset the loss of your hit points. If you're having trouble targeting enemies with focused fire or shock blasts, summon a whirlwind of ice and snow to keep your enemies in place while you snipe them. It's fun to experiment with how you can make all three disciplines work together through various combinations of spells.

But there's also enough variety within each discipline that if you focus only on one you'll still have a lot of options to play with. And it's not just about raw power: the spells are interesting and creatively designed too. A fire spell called Warmth summons a hovering ball of flames that heals everyone within a 15 foot radius. That's helpful for you and your companions when you're in a battle, sort of forming a magical healing station. But if your enemies wander into range, they'll be healed too. It's a nice touch that the spell has both pros and cons to casting it.

IT'S NOT JUST ABOUT RAW POWER: THE SPELLS ARE INTERESTING AND CREATIVELY DESIGNED

Meanwhile a fun shock spell called Eye of the Storm creates a ball of energy over an enemy's head, which will follow him around, delivering intermittent lightning bolts directly into his dome. One ice spell lets you fling frozen spears at your enemies, dealing health and stamina damage. But more importantly each successful hit feeds you back a bit of magicka making it an effective attack if you're on the ropes and out of magicka-restoring potions.

BOLT ACTION

Arcanum's spellcasting effects are fantastic, too. A fire spell called Sol Invictus lets you fling a sun the size of a small house into combat, which does massive amounts of damage and even more when it finally explodes in a huge burst of flames. It's almost startling to see this type of power on display, even though you're the one casting it. A tempest spell summons a darkly beautiful and violently swirling tornado that can keep an angry giant at bay while you slam him with focused attacks, or pull groups of scattered bandits together so you can cast AOE attacks on them. Calling down pillars of energy from the sky or setting the landscape on fire with an explosion makes you feel otherworldly in a way vanilla *Skyrim*'s spells never came close to.

Much as I love *Skyrim*, there were a few features of its predecessor, *Oblivion*, that I really miss. First, at the risk of taking major amounts of scorn, was the speech minigame. I know, it was ridiculous having to spin a little wheel as you admired, boasted, joked, and threatened your target, but I liked it. But the main thing I miss was *Oblivion*'s spellcrafting system. Nothing really makes you feel more like a wizard than hunching over a table and crafting your own unique spells.

Arcanum doesn't quite restore this missing feature to *Skyrim*, but it does have a lovely new table to lean thoughtfully over, the Arcane Escritoire. You can craft loads of new spells with it, though you don't get to customise attributes like duration, area of effect, and damage. Still, it's spellcrafting, so it's definitely welcome here, and it gives you access to new powers as you make your way through *Skryim*'s campaign, slowly gathering the extra tomes and resources needed to craft them.

Arcanum makes use of *Skyrim*'s expansions as well (and you'll need to own them), sending you on quests into the areas added by the *Dawnguard* and *Dragonborn* DLC to take on powerful bosses, like a massive dragon, a towering frost giant, and an incredibly powerful mage. Defeating these bosses will give you access to *Arcanum*'s ancient invocation abilities, extremely powerful spells that require multiple steps to cast and do tremendous amounts of damage.

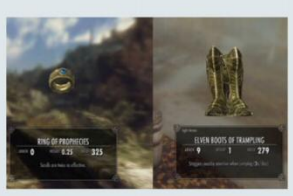
For magic users looking for a load of exciting new spells and effects, and who are willing to put in the work to acquire them, *Arcanum* might be exactly what you're looking for. The mod is a work in progress too – it's still being updated and the modder plans to potentially add over 300 spells in total.

That's a lot of new magic to learn, so you'd better get started. You can find *Arcanum: A New Age of Magic* at Nexusmods.com. ■

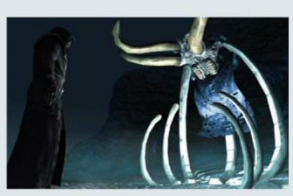
MAGE MODS *Other great magic-based mods for* Skyrim

IMMERSIVE COLLEGE OF WINTERHOLD
A complete overhaul of the wizard school, with lots of new magic items.

APOCALYPSE
This one adds over 150 spells to freshen up your spellcasting, plus new scrolls and staves.



WYNTERMIST: ENCHANTMENTS
Over 120 original enchantments for your weapons and gear.



GIFTS OF THE OUTSIDER
Brings *Dishonored* to *Skyrim* with Blink and Devouring Swarm.

You like magic orbs?
This mod's got magic orbs.

Buff yourself before casting and your spells will gain extra power.

E
Bandit
The tempest spell can pull scattered enemies into a close group.

DIARY

ENFORCING CAPITALISM IN THE OUTER WORLDS

PART I

Even executives need a hero.

By Jeremy Peel

THE RULES

1. Never do your own dirty work
2. Cut costs and turn a profit for the company
3. Live by the company's values

Hi, I'm Jeff Asbestos. Not so long ago I was like you: a plucky young go-getter, brimming with moxie, looking for the right corporate environment in which to make a difference. But I was adrift. That's not a metaphor – many influential management texts endorse plain speaking, so it's important you know I was literally adrift in an unpowered spaceship. For nearly 70 years I unconsciously orbited a planet far from Earth, one of thousands of hopeful workers seeking employment in Halcyon, a colony owned and operated by distinguished corporations.

The spaceship had broken down during the final leg of its journey, and recovery would have compromised the financial stability of the Halcyon Holdings Corporation Board. In truth I'm grateful for my time in stasis, because on the day I was finally unfrozen it left me with one certainty: heroes make sacrifices to protect the bottom line.

I land on Terra-2 as a company man in search of a company. As luck would have it the first person I happen across is an employee of a major corp. "You've tried the best," he gasps, clasping his side, "Now try the rest. Spacer's Choice." He says his name is Pelham, and that his company weapon has backfired through his side – though I note with approval his armour is mostly intact. His employer likely saved his life.

Pelham and his line manager, a Lieutenant Mercer, have been investigating an illegally grounded ship. When I catch up with Mercer on the crest of the next hill, she's located the vessel, as well as a bunch of lowlifes sniffing around its exterior. These men are armed, bloodthirsty, and worse, unaffiliated with any registered business. After a swift cost-benefit analysis, Mercer decides to leap into the fight and file a full report. "And it's gonna be fuckin' laminated," she snarls. "I'll cross these marauders off with the swift, cost-efficient fury that's made Spacer's Choice the most trusted brand in personal defence."

Mercer and a direct report, Private Kimball, charge down the hill towards the ship, while I monitor their methods. Their standard issue assault rifles perform with affordable adequacy. At least until Mercer takes a bullet to the head, dropping like shares after a disappointing quarterly report. Then Private Kimball is flanked by a marauder, who carves him up with a non-regulation machete. "So, so weak," the marauder mocks.

I'm shaking. These were people, with deadlines they can no longer meet. The thought of that unlogged report alone is bringing me out in a cold sweat. The least I can do is collect the fine for the illegal landing. I tiptoe past the surviving marauders without attempting so much as a sneak attack – I push paper, not people – and board the ship. With the owner nowhere to be found, I intend to resort to repossession, but then a better solution presents itself. The ship's computer, ADA, registers me as the captain. That means the amount I'm owed as a collector is the same I owe as the debtor, and the two figures cancel each other out. I'm confident Spacer's Choice will be satisfied: if there's one thing a corporation appreciates, it's maths.

THE LEAST I CAN DO IS COLLECT THE FINE FOR THE ILLEGAL LANDING

DIRTY JOBS

As I disembark I'm met by Ernest, a representative of the company's HR department. "Altercation, you say? Shame as that goes," he tuts. "Spacer's Choice policy strictly prohibits dying during work hours." He recommends I head to the constable's office in Edgewater – the shiniest facet in the region of Emerald Vale. Once I get there a Constable Reyes offers me four criminal investigations for the price of three. But I'm actually here to work: I've learned that employee bodies are the property of Spacer's Choice. And so in my position as debt collector I figure that means the marauders owe two in return for Mercer and Kimball. Granted it's a self-appointed position, but I know how this world works – you dress for the job you want, do all the work, and hope your manager starts paying you for it.

As it happens Reyes knows of three marauders at large with bounties on their heads. Usually the only digits I care about are profits, but I'll need to bring back their fingers to be identified. There's another Spacer's Choice maxim I'll want to stick to, though: cleanliness is next to lawfulness. It's not right for an aspiring manager to get their hands dirty, so I'll need someone else to do it for me instead. I'll need a subordinate.

We're all out of premium saltuna, so you'll have to make do with gourmet.

I find one in the offices of Reed Tobson, Edgewater's boss. As the lift doors open on the top floor of the cannery that overlooks the town, I spot him immediately – he's wearing a bowler hat indoors. As if that power move weren't potent enough, he's asked an employee to sit while he remains standing. This is the kind of man I aspire to be.

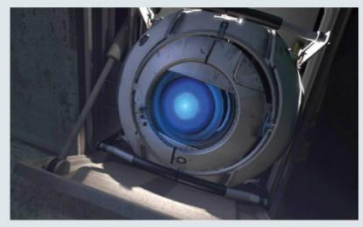
The employee, Parvati Holcomb, is a mechanic who has failed to keep one of the cannery's machines running. To make matters worse, she's named the machine 'Bess' – an act of personification contrary to the Spacer's Choice code of conduct. Clearly, she needs transferring to another department, and it just so

WHOLLY SELF-OWNED *Corp-funded games about the evils of corps*

ASSASSIN'S CREED IV
Abstergo ran a Montreal developer in this one, and released its games with Ubisoft.

BIOSHOCK
Take-Two shut down studios in Massachusetts, California and Australia after Bioshock.

RESIDENT EVIL
Like Capcom, Umbrella Corp is an international enterprise with subsidiaries across the world.



PORTAL
We're all rats in the maze of Valve's experiments. Aperture Science, eat your heart out.

happens I'm recruiting. Tobson charges me with rerouting electricity from the nearby botanical district, home to illegal squatters who've abandoned their posts in Edgewater. The extra power will help the cannery make up its shortfall, and remind the deserters that a contract is a contract. Tobson agrees to have Parvati guide me to the geothermal plant where I can switch over the power. Finally, middle management!

SULTANAS IN THE SALTUNA

Before we leave town, I stop by the store and sell off all my energy cells and heavy ammo – they're made by rival manufacturers, so aren't genuine Spacer's Choice products. Nor is the Mock Apple Cider I confiscate from Miss Holcomb's fridge. I make sure to check the recent searches on her computer, too. How can I be an effective manager if I don't know what she's thinking?

By the time we step out of Edgewater it's morning and the air hums with the activity of a new working day. I close my eyes and take in the bustle like a hymn. As Vicar Max at the local company church says, "True exhaustion awaits idle hands." Contentment comes from embracing your place in the grand machine, as I've done. Right now Parvati is a part that rattles unnervingly – but there's time to fasten her back into place before she springs loose.

On the outskirts of town are the foundations of unfinished buildings, weeds and vines growing where walls should be. Edgewater hasn't yet met its potential – like any good company it should be constantly expanding until it explodes.

We catch up with the marauders in an abandoned industrial zone. I've ordered Parvati to stick to me like a post-it. I've no intention of getting stuck in myself, so expect her to deal with any threats to my person promptly. Ammo costs the company money, so she'll be using melee weapons only – namely her Impact Hammer, used to straighten out pipes, or people. If we can save money that way, those savings will help Edgewater, so it's more humane to bludgeon and electrocute our enemies.

Once we reach our target, one Guillaume Antrim, I climb up to a nearby roof to direct the action. The plan is to draw out fighters individually, so that Parvati can smash them with her special attack. It works initially and puffs on my inhaler top up Parvati's health from afar – a quirk of the points I've invested in leadership. Medical care isn't a right enjoyed by all Spacer's Choice employees, but Parvati's assignment makes her one of the lucky few.

Soon, though, we're overwhelmed – sent packing with our tails between our legs and chased by dog-like canids with brighter-coloured tails between theirs. I hastily reschedule the task for later in the financial year and resolve to head on to the botanical district.

Not much light in here, but what do I know about alien photosynthesis?

POWER TO THE PEOPLE, OR THE CANNERY

Up here in the hills the trees stand on exposed roots as if yearning to escape their assigned roles. And in the centre of it all, deep in the greenhouse that acts as Deserter Ville HQ, is Adelaide McDevitt.

Once, as Edgewater cannery's flavour specialist, she produced a limited run of white chocolate saltuna. Now she's a benevolent spirit of the forest. Or an agent of apathy, turning good workers into the lotus-eaters of Greek mythology, blissfully devoid of responsibility. Well if there's one thing Jeff Asbestos knows, it's that days off don't get towns built or medical bills paid.

I tell Adelaide about Tobson's plan, as instructed, and suggest she rejoins the workforce with her followers. Adelaide asks me to do the same in reverse – directing power away from Edgewater, liberating its people. "Seems the sort of thing a hero would do," she says, before positing that Parvati's father died of overwork. Tobson is a manipulator, according to her, but I'm starting to think the Vale has more than one. We wander through the greenhouse for a while, looking for a sign. I find it screwed to the wall, painted in brand-approved yellow, a beacon amid the green "ONLY YOU can protect fourth quarter profits!". Pride swells in my chest.

That mascot has a moon for a face. I implicitly trust him.

Reaching the back of the camp, confiscating Spacer's Choice property as we go, we find a river. Here, at least, everything flows in one direction – it's enough to bring a tear to a middle manager's eye. We follow its meander down to the geothermal plant.

The plant is a cautionary tale of fecklessness and misused company funds. The locals exceeded their staff budget, leaving the Spacer's Choice Development and Oversight Office with little option. The company took out a significant insurance policy against the plant, and then sent a team of specialists to reprogram its robots as... staff-reducers.

THE PLANT IS A TALE OF FECKLESSNESS AND MISUSED COMPANY FUNDS

Of course that's not the official line. As a Spacer's Choice employee, I'm contractually obliged not to say anything that would make the company look bad. But it's the type of call somebody like myself would make – a fixer brought in to make Tough Decisions.

By the time we get there there's only one employee left, named Higgins. He's a former engineer, and claims to have survived by illegally jimmying open vending machines. Clearly the Oversight Office has determined that all staff should be terminated, so in the absence of a disciplinary board, we finish the job.

We improve on our process as we punch through the rest of the building, flattening each haywire robot with Parvati's special attack before pounding it to pieces on the plant floor. I make a mental note to deduct the damage to company property from her pay cheque.

"Do you understand what you're about to do?" she asks as I approach the master control terminal, which warns of permanent power failure to the botanical district should I turn power over to Edgewater. "I know exactly what I'm doing, Parvati." I flip the switch. ■

Even the most persuasive manager needs muscle.

If these rails were ever used, they're not now.

The longest line for the longest ride in the park.

THEME PARK INC

Managing patrons and puke in this coaster sim. *By Joanna Nelius*

I placed hotdog stands too close to the entrance of my rollercoaster and now people are puking on the sidewalk. My janitors are threatening to strike because they can't clean the puke up fast enough, but I chose to install bathroom security cameras to stop kids from setting off stink bombs instead. My janitors strike. The puke festers on the ground. People puke from the puke. No one ever said running a theme park was easy.

Theme Park Inc (known in my native United States as *SimCoaster*) tests your ability to play PR, HR, marketer, and designer at the same time. You not only have to manage a robust employee roster of gardeners, security guards, janitors, engineers, and entertainers, but you also have to monitor guest satisfaction with every feature of your park, right down to every last plant. Do well, and you can expand your park into different themed zones, unlock new rides, and grow profits sky high. Do poorly and risk some stern words from unhappy shareholders – or worse, get fired.

GREED IS GOOD

There are a lot of similarities to *RollerCoaster Tycoon*, but *Theme Park Inc* has a more cartoonish feel, which is probably why my younger brother and I gravitated toward it instead when we were kids. It's a complicated game with a lot of moving parts, going as far to offer you a full businss statistics menu, complete with a financial summary and a point-to-point graph that allows you to toggle on/off different categories, such as ticket sales and shop profits, that show your overall gains/losses over a one, three, and 12-year period.

You can even see how many people are in the park at any given time, too, and their arrival rate. I don't know what it's like to run a real theme park, but I imagine it would feel pretty close to this.

Theme Park Inc also breaks down your visitor statistics by age group, the average amount of money each group spends, what kind of rides they go on the most and their most dominant thoughts, which seems Orwellian in itself, since you can also click on any individual park guest and see how they are feeling or what they are thinking in a thought cloud above their heads. Each demographic is going to want different things, so creating an even amount of entertainment for each age group is the key to keeping everyone happy –

NEED TO KNOW

RELEASED 2001	**DEVELOPER** Bullfrog Productions
PUBLISHER EA Games	**LINK** ea.com

Nice view.

Spy on your guests' thoughts. It's totally ethical.

and if everyone is happy, they are willing to pay more to get into your lovely theme park.

One easy way to boost guest happiness is to plant trees and shrubbery all over your park. People like looking at pretty things, and if they have a bad experience on a ride or at another type of attraction, a well-groomed plant will help take their mind off it. Of course, this will cost money, but it costs even more to keep these plants from turning into sad, brown husks.

GARDEN STATE

Gardeners are a necessity in that case, and you can direct their work in a few different ways. You can let them roam the park and pick up work on their own, but that's not efficient, and sometimes they'll spend more time hanging out in the breakroom.

You can click on a plant that you want them to pay attention to and the nearest gardener will tend to it. Or you can become a micromanaging boss from hell and assign them to patrol a specific area. This is a great deterrent against children lighting your plants on fire (*Theme Park Inc's* children are pyromaniacs), but it's a quick way to drive down your gardening staff's morale.

You can control the other park employees the same way too. I ended up putting the most employee wages toward security, since those dang kids kept playing pranks and setting off stink bombs in the bathroom. Most of the time the guards catch the delinquents, with the help of some strategically-placed security cameras, but you can also click on the kid to summon a guard to their location. Once a guard catches up with them, they stuff the kid in a beige sack and toss them out of the park. This method also works on adults and elderly patrons who complain about your establishment to other guests. The game will actively encourage you to 'deal' with them, and I have no problem with that. Years of torturing families in *The Sims 3* and *4* have

KIDS KEPT LIGHTING FIRES AND SETTING OFF STINK BOMBS IN THE BATHROOM

TOURIST-TRAPPED *Why are they complaining? Let's find out!*

FATHER
Annoyed that his camera got wet on a water ride.

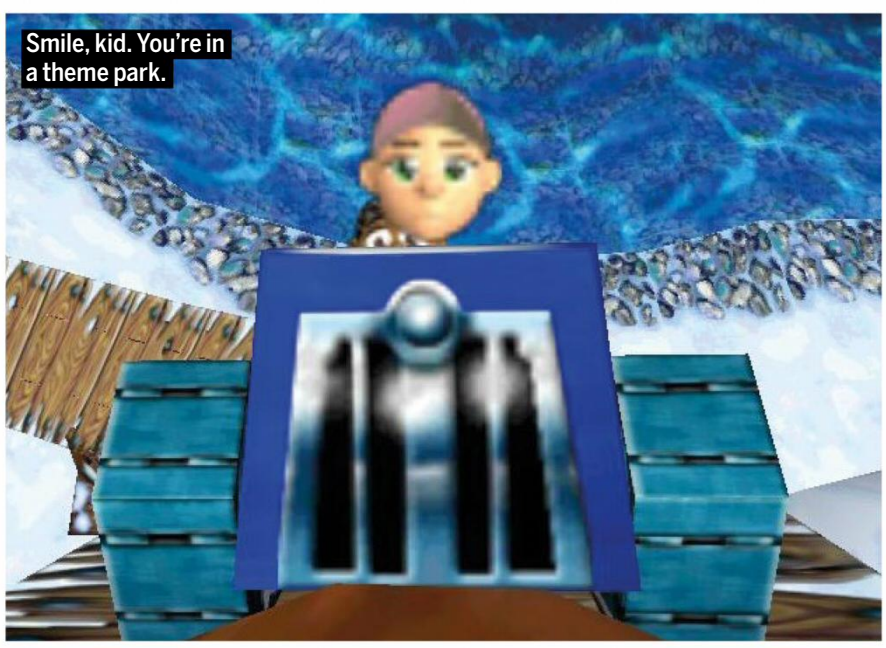
MOTHER
Wishes the candyfloss was as big as her hair.

GRANDPA
The arcade machines stole all his pocket change.

GRANDMA
Angry about eating a very undercooked hot dog.

KID
Finally getting kicked out for being a little shit.

All the food.


Smile, kid. You're in a theme park.

hardened me to the point that even giving old grandmas the boot no longer fazes me.

Of course, if you overwork your employees, they'll strike until you raise their wages. Thankfully, you don't have to worry about other legal necessities like health insurance and workers compensation, but equally real theme park managers probably don't have to deal with their janitorial staff downing mops after a kid stink bombed nine of your ten bathrooms. Luckily *Theme Park Inc* will let you raise their wages as much as you like... even if it drives your theme park into ridiculous debt.

Another important part of retaining employees and growing your park is giving them extra training. Janitors can't put out fires if they haven't been on a firefighting course, and you can't expand into certain areas if you don't have an engineer that can blast through rocks. More training means more responsibility, which means they'll naturally ask for even higher wages, but you'll do the right thing and pay them what they deserve, right?

Besides managing guests and employees, winning challenges is the most crucial part to running a successful theme park. They allow you to expand your park to three differently themed lands, and unlock new rides and concession stands.

The Land of Invention is where you start *Theme Park Inc*, a plush green landscape bordered by a bright blue river. After completing challenges to expand that section you unlock the Polar Zone, a winter wonderland that inexplicably includes an octopus ride as part of its theme. The final section you gain acccess to is Arabian Nights, which is a stereotypical Middle Eastern land – with its snake charmers and scarab go-kart rides, it does feel a bit... old-fashioned in 2019.

LAND GRAB

But when the decor isn't abrasively mashing different cultures together, it looks darn cute. Every time you build something new it springs up like a building in a pop-up book. Every umbrella, windmill and telescope move dynamically. You can even hop

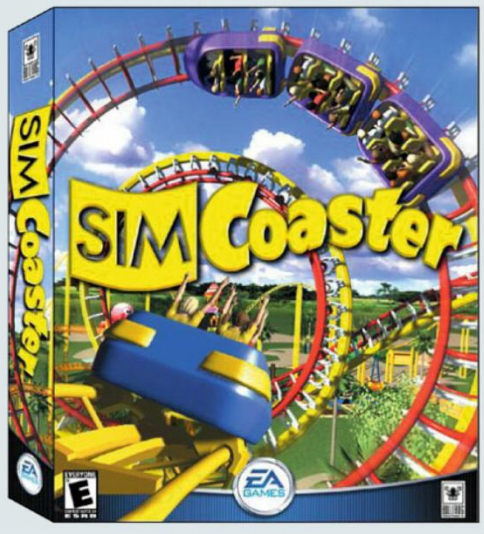
PARK FACTS

Add these to your next trivia night

1 We gave the game a 75% score in our original review.

2 This is the third game in the series, the first of which came out five years before *RollerCoaster Tycoon*.

3 This was the last game put out under the Bullfrog Productions name – in 2004 the studio merged with EA UK.



Not enough snowmen to keep people from puking.

A VOMIT-SOAKED THEME PARK IS THE QUICKEST WAY TO DRIVE DOWN PROFITS

on one of your roller coasters in first person and see everything you've built from above.

If you don't put enough trash cans near a heavily populated concession area, guests will throw their trash on the floor. (OK, sometimes they throw their trash on the floor even if they are by a trash can. Sometimes they light them on fire, too.) Every detail, beautiful or stinky, makes your theme park feel like a theme park.

And the best part about running being the boss is hiring scientists to research new rides for you. After you complete enough challenges and earn enough money you can choose what type of ride you want them to design next, whether it's a bone-soaking water ride or a little arcade game that's easy on grandpa's sensitive heart. The core of any theme park is pulling in guests with some cool, new attractions, and *Theme Park Inc* lets you build so many of them.

Not only that, any coaster-type ride, a traditional coaster, water ride, or go-kart track, is fully customisable; you're only limited by your imagination and the amount of space you left yourself to build it. Build loops, tunnels, bridges – just don't do what I did and put all the concession stands near the roller coaster with three loops and a long corkscrew. A vomit-soaked theme park is the quickest way to drive down profits.

CHALLENGE ACCEPTED

Theme Park Inc wouldn't be a complete theme park management sim without some appropriate challenges – oddly, these only start once you manually activate them. You'll find yourself taking advantage of a heatwave and pushing up the prices of ice cream and cold drinks. When it rains, jack up the prices of umbrellas and hot food. Certain challenges you'll have to complete as part of a larger objective, which mostly has to do with expanding your park or getting promoted. But there is little room for error – fail a few challenges and it's game over, you're fired. A lot of the challenges repeat, though, at least in theory.

Both the Land of Invention and the Polar Zone each have an overstock challenge in which you must sell a certain number of hot dogs and drinks in a certain matter of days, respectively. One is easier than the other, but if you get crafty with the settings of each individual food and drink stands, you'll psychologically trick your guests into purchasing exactly what you want them to purchase. The fries stand, for instance, allows you to change the amount of salt they have on them. Super salty fries will drive people to buy more drinks, which will drive up those profits.

You can also build info kiosks around the park to advertise specific concessions stands to drive more people to them.

There are many more nuances to *Theme Park Inc*, and I feel like I'm discovering them over again as I play through this 18-year-old game. It's still as involved as I remember it, and I'm still a terrible business owner, but I don't mind. I will always enjoy kicking out the little pyromaniacs that keep setting my plants on fire and riding my own roller coasters in first-person mode. ■

TURNING THE SETTINGS UP TOO HIGH

Why do we game on PC if not to break stuff? ***By Ian Evenden***

For almost as long as I can remember I've tried to push games past the limits of my PC. These days that means trying to run them at 4K on a graphics card that's not up to it. It means bringing framerates to a stumbling halt whenever anything interesting happens, never lowering detail levels beyond 'medium'.

It's a compulsion that goes back a long way. I was one of the lucky kids who got to use the PC their mum bought for word processing and 'homework' to play games on, a 286 with 1MB RAM, later upgraded to a 386 with 4MB, a CD-ROM drive and a Soundblaster 16 sound card.

On this latter machine I attempted to run *Doom*, a game that really wanted a 486. Graphics cards hadn't been invented yet, but neither had proper detail levels. *Doom* ran in hi-res and lo-res modes, and if you wanted to reduce the strain on that passively-cooled CPU any more you could reduce the size of the viewable area by literally walling it in, grey-green bricks filling the space between the game and the edges of the screen. This had the desired effect, but on a 14-inch monitor was a dismal experience.

So it was lo-res mode in fullscreen. I became intimately familiar with every frame of the shotgun reload animation while cacodemons jerkily canted left and right, their fireballs appearing halfway through their trajectories and taking me by surprise.

For the majority of the first episode, the shareware one, it was a playable experience, a few zombies or imps proving less of a strain on resources. Only when the Shores of Hell and Inferno were attempted did my mind turn to upgrades.

STUTTER ISLAND

Another game, supplied on CD-ROM for a whizzy loading speed that gave no indication of the jerky horrors to come, was *Syndicate*. The signs were there from the start, as the intro took a deviation from smoothness. The camera lifted off the ground and the West Gate opened to reveal the Leonardo building... it all went by in three jerks. Looking at that intro movie today, though, it doesn't seem to run exactly smoothly for anyone.

Syndicate is a game in which four tiny men run around a city shooting other tiny men you need to identify as civilians, police, or enemy agents. The PC version was ahead of the Amiga in this respect – at least you could tell vehicles apart without having to look at their descriptions – but it meant the game had to be run at a decent resolution so all the important detail could be appreciated. This meant, when lots of firing was happening at once, or when bombs went off, it once again slowed to a crawl.

But it didn't matter. I could still play the damn thing even if my friends were getting their jollies from something called '*Mario Kart*'.

Playing on inadequate equipment somehow gets to the heart of PC gaming, the fiddling required – back then with autoexec files, these days with graphics settings – to get them running in a satisfactory way, maybe to get them running at all. Being prepared to put up with ridiculous framerates and detail levels rather than buy a PlayStation is surely the mark of the dedicated PC gamer... though perhaps not the most intelligent one. We play games this way because not only do we want the best looking games but because we love to tinker. And it's a trend that continues. A rumour came round that hardware transform and lighting could be enabled on the Voodoo 3 for a performance boost. I tried it – it didn't seem to make any difference. *Morrowind* whooshed past in the muddy brown haze that was the best a Geforce 4 MX could provide. However I played *World of Warcraft* on Core 2 Duo integrated graphics, surprisingly successfully.

THE NUMBERS GAME

This century, with various GTX 680s, 970s and a 1070Ti in my PC case, I still do it. 30fps holds no fears if it unlocks a higher detail level. 25fps might not be too bad... it's good enough for the movies. I keep a frame counter visible at the top of my screen to check things aren't plunging too low. And I'm very appreciative of games such as *Gears 5* that manage settings for you, plugging in a resolution and a maximum frame rate all that's needed to get a bright, sharp 4K picture that doesn't judder too much. If it ever hits 60 I'm ecstatic, but it's much more likely to say 30, with drops to the 10s, because when there's an Ultra option, I can never bring myself to choose 'just' High. ■

PLAYING ON INADEQUATE EQUIPMENT SOMEHOW GETS TO THE HEART OF PC GAMING

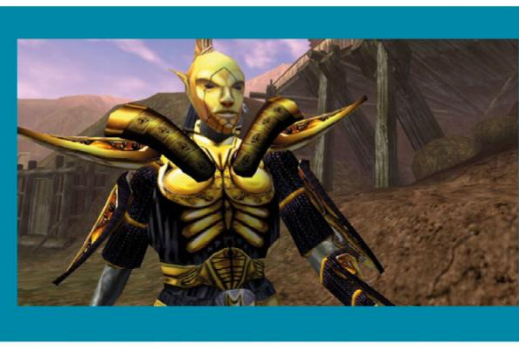
AUTOMATIC EXECUTION

The lost art of configuring startup files

The tuning of autoexec.bat files to squeeze a game into memory used to be a common thing. PC RAM was once split into conventional, expended, and expanded, and knowing what a game wanted in terms of each was key to getting it to run nicely. Autoexec files run at PC startup and contain commands such as LOADHIGH that would push device drivers and the like into higher memory, freeing up conventional memory for the game. Remember, 640kb is all the RAM you'll ever need.

You could also use them to set the interrupt requests and direct memory access used by sound cards – some games let you tweak these settings, others didn't mind what you used, still others demanded precise settings or they wouldn't work. See, in my day, you used to have to *earn* your gaming time. People these days don't know how good they've got it...

LEFT: It's *Doom* alright, but not as most people remember it.



RACHEL WATTS

If you close your eyes super tight and wish really, really hard, all these games will magically appear in your Steam library! A Christmas miracle!

TINY ECHO

mightanddelight.com

→ Might and Delight's little gem *Tiny Echo* lets you play as a forest sprite delivering mail to the creatures and spirits of the undergrowth. It's relaxing, dreamlike, and at one point your tears help bring some dying shrubs back to life. Exactly the sort of wholesomeness I need in my life.

DISCO ELYSIUM

zaumstudio.com

→ *Disco Elysium* accepts me for my true detective persona – a coward who barfs at dead bodies and cries when suspects poke fun at me. But give me a painting or a wall mural and I can conceptualise and empathise the crap out of it. Never fear, humble citizens: super sensitive art cop is here.

ABZU

abzugame.com

→ *ABZU* takes my clunky, awkward game inputs and translates them into the most graceful and delicate movements I have ever seen. Playing as a diver, you must find out what happened to an ancient civilisation whilst exploring a vibrant underwater world filled with tranquil sea life. Also, there are manatees.

HOLLOW KNIGHT

hollowknight.com

→ Exploring the dark, strange catacombs of *Hollow Knight*'s subterranean world is a truly unique experience. Wandering through it's gorgeous gloomy caverns, duelling with Hornet, and hanging out on a bench with my best bug boy, Quirrel, are just some of the many unique moments that I will cherish.

MUST PLAY

A PERSONAL LIST OF THE BEST GAMES YOU CAN PLAY RIGHT NOW

by Rachel Watts

A SHORT HIKE

ashorthike.com

→ A pocket-sized version of *Animal Crossing* crossed with *Celeste*, *A Short Hike* focuses on getting to the summit of Hawk Peak's mountainside. There's no need to rush, though – *A Short Hike* lets you take the scenic route, chat to hikers, collect items, and explore the landscape at your leisure.

TELLING LIES

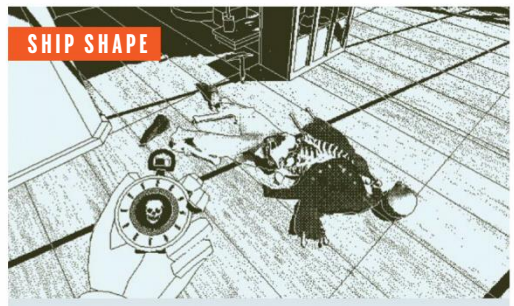
tellingliesgame.com

→ Watch through a stash of NSA video clips of four people's personal lives and piece together what happened in this investigative thriller. A tip from one detective to another: make use of the bookmark system to help create a timeline of events. The future is now – watch out Miss Marple.

DETENTION

redcandlegames.com/games

→ A point-and-click chiller that combines object collection puzzle solving with a thick, unsettling atmosphere. If you play like me, you'll be getting to know the many eerie corridors and classrooms as perfect hiding spots from the game's Taiwanese mythological monsters and historical horrors.



RETURN OF THE OBRA DINN

obradinn.com

→ The merchant ship, the Obra Dinn, has mysteriously floated into harbour with all its crew missing. It's your responsibility to search the ship and discover how all 60 passengers mysteriously disappeared. Lucas Pope's first-person mystery turns the gossip of sailors into a thrilling detective story.

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